UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AT&T SERVICES INC., T-MOBILE USA, INC., CELLCO PARTNERSHIP D/B /A VERIZON WIRELESS, ERICSSON INC. AND NOKIA OF AMERICA CORPORATION,
Petitioners,

v.

ASUS TECHNOLOGY LICENSING INC.,
Patent Owner.

Patent No. 7,664,059

DECLARATION OF CRAIG BISHOP

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I. INTRODUCTION

I, Craig Bishop, declare the following:

1. I have been retained as an independent expert witness on behalf of AT&T Services Inc., T-Mobile USA, Inc., Cellco Partnership d/b/a Verizon Wireless, Ericsson, Inc. and Nokia of America Corporation ("Petitioners"), related to the *Inter Partes* Review ("IPR") of U.S. Patent No. 7,664,059 ("the '059 patent").

2. I am being compensated for my work in this matter at my normal consulting hourly rate. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony in this investigation. My compensation is not contingent on the results of my study, the substance of my opinions, or the outcome of this matter.

3. I have no financial interest in the '059 patent and have had no contact with the named inventors of said patent. Neither have I reviewed the '059 patent in detail, nor do I have any personal interest in the outcome of this IPR.

4. In forming the opinions expressed in this declaration, I have considered the reference materials cited herein and my own academic background and professional experiences as outlined below.

5. While I have attempted to organize the information presented in this declaration into helpful sections and/or divisions, my opinions are supported by the information in the declaration in its entirety.

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II. QUALIFICATIONS

6. My complete qualifications and professional experience are described in my *curriculum vitae*, a copy of which is attached as **Appendix 1**. The following is a summary of my relevant qualifications and professional experience.

7. I earned my Bachelor of Electronic Engineering degree with Honors from Polytechnic of Central London in 1989. In 2005, I earned my MSC in Computer Science with Distinction from the University of Kent.

8. After graduating with my first degree, I worked as an operations engineer at the British Broadcasting Corporation (BBC) for 4 years, then as a civil servant at the UK Radiocommunications Agency until 1996, during which time I became involved in telecommunications standardization in the European Telecommunication Standards Institute ("ETSI"), working in particular in Technical Committee Radio Equipment and Systems (TC RES2) concerned with the standardization of Private Mobile Radio (PMR). From 1994 through 1996, I acted as Rapporteur for voice and data related PMR standards ETS 300 113, ETS 300 219 and ETS 300 390. I participated as the only TC RES2 delegate on behalf of the UK Radiocommunications Agency, generating proposals in support of UK administration and business requirements, downloading and reviewing other meeting input documents, and proposing changes as necessary to ensure input documents and the resulting specifications were in line with said requirements.

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9. In 1996, I joined Samsung Electronic Research Institute as a Senior Standards Engineer where I worked for 16 years, eventually becoming Director of Standards and Industry Affairs in 2011. My work at Samsung mainly focused on the standardization of Global System for Mobile Communications (GSM)/ General Packet Radio Service (GPRS), Universal Mobile Telecommunications System (UMTS), the IP Multimedia subsystem (IMS), and Long-Term Evolution (LTE)/ Evolved Packet System (EPS) systems. Initially, I participated in ETSI Special Mobile Group (SMG) committees SMG1, SMG2, SMG4, SMG5, and SMG9, and relevant UMTS related sub-committees working on the air interface radio access network protocols, service, and terminal aspects of UMTS and GSM/GPRS until 1999. In particular, I was a participant in the ETSI SMG2 meetings leading up to selection of Wideband Code Division Multiple Access (WCDMA) as the radio access technology for the Frequency Division Duplex (FDD) mode of UMTS.

10. Beginning in 1998, I worked as a Principal Standards Engineer on the 3rd Generation Partnership Project (3GPP) on UMTS. I attended the inaugural 3GPP Technical Specification Group (TSG) meetings held in December 1998, and I began attending Working Group (WG) meetings in 1999. Specifically, I was a regular participant in Radio Access Network (RAN) WG1, Services & System Aspects (SA) WG1, Terminals (T) WG2, but I also attended TSG RAN and T plenary meetings and sometimes other Working Groups and covering similar technical aspects as in

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my previous work in ETSI. As an example, RAN WG2 was, and is, a Working Group responsible for the specification of layer 2 and layer 3 Radio Resource, protocols for the UE. As part of this work, I would prepare meeting contributions in support of Samsung's research and development activities. Also, by way of preparation for each meeting, I would download all contributions and review those of interest to Samsung, and where necessary, prepare additional input to the meeting based on said review.

11. Beginning in 2000, I acted as project manager and then as system engineering manager at Samsung, providing technical requirements for the team working on Samsung's UMTS modem development. This involved scrutiny of ongoing standardization work, particularly in RAN WG1, RAN WG2, and TSG Core Network (CN) WG1, from which I would download, and assess the impact of, contributions on Samsung's development projects, ensuring that Samsung's development team was kept informed about the latest developments as layers 2 and 3 of the UMTS standard were stabilized.

12. During this period, in addition to authoring and presenting technical contributions for the 3GPP standard, and producing technical requirements for the radio modem, I acted as Rapporteur for 3GPP Technical Reports covering User Equipment ("UE") capability requirements (3GPP TR 21.904) from 1999–2000, and the Evolution of the 3GPP System (3GPP TR 21.902) in 2003 (the first Study Item

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to consider the 3GPP system beyond UMTS towards LTE/EPS).

13. In 2005, I became Head of Advanced Technologies, Standards and Regulation (ATSR) at Samsung. In addition to my managerial duties which included responsibility for standards, research, and regulatory engineers including three standards engineers who were regularly attending 3GPP RAN WG2 and Core Network and Terminals (CT) WG1 Working Groups, I personally continued to work on 3GPP standardization issues. From 2005 until 2008, I regularly attended and participated in SA WG2 meetings, mainly focusing on IP Multimedia Subsystem (IMS) including voice over IMS but also looking at wider Evolved Packet System (EPS) related issues. From 2008 until 2011, I regularly attended and participated in SA WG1 meetings. I also attended SA plenary meetings from 2008 until I left Samsung in 2013. As well as generating contributions in support of Samsung's research and development as preparation for each meeting, I would download and review documents from other 3GPP members, identifying those of interest to Samsung and, where necessary, preparing additional contributions on behalf of Samsung. The work required a sound working knowledge of the broader 3GPP system to ensure effective management of the ATSR team, effective participation in meeting discussions, expert assessment of third-party standards contributions, and provision of implementation guidance to Samsung developers.

14. From 2005 until I stopped attending SA WG1 meetings in 2011, I

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authored and presented over 100 contributions to SA WG2 and SA WG1 meetings at 3GPP and appeared as an author/co-author on 18 patent applications related to User Equipment operation in the IMS and the 3GPP Core Network.

15. In 2011, I became Director of Standards and Industry Affairs at Samsung, and in November of that year I was elected to the Board of ETSI on which I served for a term of 3 years until November 2014. In this position I gained further perspective on the organisation, management, and activities of ETSI and its Technical Committees and Partnership Projects including 3GPP.

16. Since leaving Samsung in January 2013, I have formed my own consulting company which is a member of ETSI, and as part of various projects undertaken, I have continued to regularly access the ETSI and 3GPP document servers, and to keep abreast of ETSI and 3GPP document handling and publication practices.

17. Through my extensive work in ETSI and on 3GPP standardization issues over the years, I have become very familiar with ETSI and 3GPP practices for when and how the technical standards (including revisions thereto) and other standards-related contributions are made publicly available, including in the 1999-2012 timeframe when I was attending or monitoring various 3GPP Working Groups including RAN WG1 and RAN WG2, and since 2013 in support of my work as a independent standardisation consultant.

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18. For purposes of my analysis in this declaration, I have been informed that a person of ordinary skill in the art ("POSITA") in the field of the '059 patent at the time of the alleged invention of the '059 patent would have had the equivalent of an undergraduate degree in Electrical Engineering, Computer Science, or Computer Engineering, familiarity with the relevant 3GPP standards as of this time, and at least two years of experience in design, development, and/or testing of cellular networks. This definition is approximate, and more education may substitute for industry experience or vice versa.

III. PUBLIC AVAILABILITY OF 3GPP STANDARDS PROPOSALS AND OTHER DOCUMENTS

19. Based on my years of experience working in various capacities in 3GPP and on 3GPP standards issues, I am familiar with the operational practices of the 3rd Generation Partnership Project (3GPP) relating to technical documents including specifications, draft standards and proposals, and standards-related technical contributions, as well as the practices through which 3GPP makes these documents public.

A. Prominence and Purpose of 3GPP

20. 3GPP was inaugurated in December 1998 to produce Technical Specifications and Technical Reports for the Universal Mobile Telecommunications System (UMTS), a 3G Mobile System based on evolved GSM core networks and a

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new radio access network known as UTRA (UMTS Terrestrial Radio Access). **Appendix 2** at 2, 3 ("[3GPP] Partnership Project Description"); **Appendix 3** at 1; **Appendix 4** at 5. At that time, various standards organisations agreed to cooperate to produce a "complete set of globally applicable Technical Specifications" that would then be transposed into standards by the relevant standardization bodies (also known as Organizational Partners). **Appendix 2** at 3, 5 ("[3GPP] Partnership Project Description"). 3GPP "attracted a very strong commitment from organisations and companies around the world, reflecting the truly global nature of the project". **Appendix 4** at 7.

21. 3GPP is a global initiative partnership made up of Organizational Partners, Market Representation Partners, and Individual Members. **Appendix 5** at 7, 8; **Appendix 2** at 10. Today, 3GPP unites seven telecommunications standard development organisations ("Organizational Partners") from around the world: the Association of Radio Industries and Businesses (ARIB) and the Telecommunication Technology Committee (TTC) from Japan, the China Communications Standards Association (CCSA) from China, the Telecommunications Standards Development Society, India (TSDSI) from India, the Telecommunications Technology Association (TTA) from Korea, the European Telecommunications Standards Institute (ETSI), and the Alliance for Telecommunications Industry Solutions (ATIS) from the United States. These Organizational Partners are regional standards

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organisations that have the authority to define, publish, and set standards for their respective regions. **Appendix 2** at 12. 3GPP also includes "Market Representation Partners" that represent various industry perspectives and offer market advice. **Appendix 5** at 7 (3GPP Working Procedures, "Market Representation Partnership"); **Appendix 2** at 14; **Appendix 4** at 5. Additionally, 3GPP includes individual member companies ("Individual Members") that participate in 3GPP through their membership in a 3GPP Organizational Partner. **Appendix 5** at 7 (3GPP Working Procedures, "Individual Membership"); **Appendix 6** at 5 (textbook including a chart showing 3GPP structure at the time of publication); **Appendix 8** at 9, 10. As an example of how prominent 3GPP was and remains in the industry, there were 174 participating Individual Members in August 2000. **Appendix 7**. There were 827 individual members as of June 2024. **Appendix 9**.

22. As noted in paragraph 20, a primary goal of 3GPP is to provide an environment to produce technical specifications and technical reports that define and standardise technologies covering cellular telecommunications networks, including User Equipment or Mobile Device (UE) technologies, Radio Access Network (RAN) technologies, Core Network (CN) technologies, and service and system capabilities such as work on codecs, security and quality of service. The specifications also provide hooks for interworking with non-3GPP networks including but not limited to Wi-Fi networks.

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23. Given the prominence of 3GPP in the wireless communication industry, beginning in 1999 and continuing through today, interested POSITAs were tracking the developments of the latest 3GPP specifications and reports to ensure timely development of products and services by their companies that were consistent with the standards being developed. In other words, it is my opinion that a POSITA would have to be familiar with 3GPP and with the specification-related documents produced as part of the 3GPP process in order to properly perform his or her job. Without access to and knowledge of the 3GPP documentation, including for example the substantive contents of 3GPP technical specifications, an engineer could not develop products that were interoperable with the worldwide 3G, and later 4G, and 5G standards. Because 3GPP documents were an important aspect of a POSITA's professional experience, textbooks and articles about cellular communications commonly directed readers to the 3GPP website for information regarding standards development. **Appendix 4** at 9 (directing readers to the 3GPP website at the conclusion of the chapter on the success of 3GPP in the standards development process). As a POSITA myself, I would regularly visit the 3GPP website for the latest developments mobile communications standards setting and refer colleagues involved in the development of such devices to the 3GPP website as a valuable reference.

24. My personal experience at Samsung confirms 3GPP's prominence in

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the wireless industry. For example, engineers and managers at Samsung who were responsible for implementing 3GPP compliant modem software (and who were not attending 3GPP meetings or involved with development of the 3GPP standard in any direct way) would often enquire as to which version of a given 3GPP specification they should be developing. Further, between 2000 and 2004, part of my role at Samsung involved advising software engineers implementing the 3GPP standard on the correct interpretation of the specifications and ensuring that they were made aware of any changes and proposals made during the 3GPP standards development process that would impact their work. I also for a time maintained an internal company database that tracked 3GPP approved changes, to help the software engineers at Samsung implementing the 3GPP standard more readily stay informed as to changes that would impact their work. The database also included links to relevant 3GPP documents so that engineers could access the documents directly. In short, the technical output of 3GPP was, and continues to be, well known at 3GPP member companies, even for engineers who were not directly involved with designing the 3GPP system or contributing to the 3GPP standard process.

B. 3GPP's Policy of Making Documents Public

25. 3GPP's policy was to make 3GPP documents available to the public, including to interested POSITAs. The free availability of 3GPP documents to any interested member of the public was widely recognized in the industry. As an

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example of the prominence of 3GPP and its place in the wireless standards industry, I note that textbooks directed readers to the 3GPP website for information about relevant standards. For example, **Appendix 6** at 6, 9 ("The latest specifications can be obtained from 3GPP [9]", "[9] http//:www.3GPP.org"); **Appendix 8** at 10 ("3GPP TSs and TRs are publicly available at the 3GPP web site at either of the following URIs: http://www.3gpp.org/specs/specs.htm http://www.3gpp.org/ftp/Specs/archive/"). Because the purpose of 3GPP is worldwide adoption of a common standard, no restrictions on distribution or discussion have ever been placed on 3GPP documents. **Appendix 10** at 9 ("No password is needed to access any information on the 3GPP Web site, all information is openly published").

C. 3GPP Structure and Standards Development Process

26. Within 3GPP, responsibility for producing specifications was delegated to the Technical Specification Groups (TSGs). **Appendix 5** at 11 (3GPP Working Procedures, "TSG tasks"). At its inception, 3GPP was divided into four Technical Specification Groups (TSGs), each covering a particular category of technology. **Appendix 2** at 31 (3GPP Partnership Project Description); **Appendix 6** at 5, 6 (textbook listing four TSGs and noting the subsequent addition of a fifth TSG); **Appendix 4** at 6, 11, 12. Each TSG is further divided into a number of Working Groups (WGs). **Appendix 8** at 8, 9; **Appendix 4** at 6; see also **Appendix 5** at 11

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(3GPP Working Procedures). Two of the TSGs from 1999 are still in existence in 2024: TSG Radio Access Networks (RAN) and TSG Service & Systems Aspects (SA). The activities of two other TSGs, TSG Core Networks (CN) and TSG Terminals (T), were amalgamated under Core Network and Terminals (CT) following the closure of TSG T in 2005, with responsibility for terminal test specifications being moved to a RAN working group (RAN WG5). The fifth TSG, GSM EDGE Radio Access Networks (GERAN), was responsible for evolution of the GSM radio technology from 2000 until that TSG closed in 2016 and its work was transferred to a RAN working group (RAN WG6) which was itself closed in July 2020.

27. The TSGs held quarterly plenary meetings where members' contributions, draft specifications/reports, and other documents that had been agreed upon by the Working Groups were presented for discussion and approval. **Appendix 5** at 19 (3GPP Working Procedures, "Deliverable types," stating that Technical Specifications and Technical Reports are "drawn up by the TSGs" and are approved by TSGs); **Appendix 8** at 9 ("3GPP Deliverables"). Once a Technical Specification was or Change Requests creating a new version of a Technical Specification were, formally approved by TSG plenary, the latest version of said Technical Specification would be created by the Mobile Competence Centre (MCC) and uploaded to the file server. **Appendix 10** at 7; **Appendix 11** at 1. In that way, the conclusion of 3GPP

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TSG plenary meetings serves as notice that new versions of specifications incorporating Change Requests approved by the TSG meeting will shortly be made available on the public 3GPP server.

28. As part of the standards development process, delegates could submit contributions on behalf of the Individual Members. Members had an incentive to stay updated on 3GPP developments because those members usually wanted to contribute to the standard and make suggestions as to what technology and/or features should (or should not) be included. Delegates also attended 3GPP meetings to keep their employers abreast of developments related to the standards that would ultimately apply to those members and the products those members (*e.g.*, companies) produced. 3GPP members around the world and the interested POSITAs employed by them would have been motivated to stay up to date regarding 3GPP technology evolution to ensure their research and development programmes remained relevant to the systems being specified and that their products were compliant with the published 3GPP specifications. In light of this need to follow the standards development process, delegates often distributed 3GPP-related documents far beyond the attendees at 3GPP meetings. This was certainly my experience at Samsung.

D. 3GPP Documents

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1. Technical Specifications and Reports

29. The technical specifications and reports developed by 3GPP were, and still are, driven by the technical contributions of 3GPP members. As part of that development process, various types of documents were produced. The 3GPP process involved the consideration of temporary documents ("TDocs," also referred to as "contributions,"), many of which constituted technical proposals for how the system should be implemented and were adopted as the basis for parts of the technical specifications.

30. As I noted in paragraphs 20 and 22, a primary purpose of 3GPP is to prepare, approve, and maintain globally applicable Technical Specifications and Technical Reports. **Appendix 5** at 6 (3GPP Working Procedures, "Purpose"). A "Technical Specification," as defined by 3GPP, is "[a] 3GPP output document containing normative provisions approved by a Technical Specification Group". **Appendix 5** at 22. 3GPP would (and still does) periodically freeze a complete set of standards (referred to as a "Release"), and each set would include many new specifications. **Appendix 10** at 7. 3GPP would also make publicly available draft specifications that would usually be included as part of the next Release once approved.

31. It was widely known that Technical Specifications (and Technical Reports) were publicly available on 3GPP's website. It was also well known that the

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latest version of a given specification that was under change control would be made available following each TSG Plenary meeting responsible for that specification, and that TSG Plenary meetings usually occur four times per year. **Appendix 10** at 7; **Appendix 11** at 1.

32. Latest and previous versions of technical specifications could be easily accessed from the 3GPP website. The specifications page provided direct links to the specifications area in the 3GPP website's file repository. **Appendix 11** at 1. In the 2000 - 2005 timeframe, the specifications page listed the specifications by the date of the approval of the latest versions reflecting the TSG plenary meeting date. *E.g.*, **Appendix 11** at 1.

33. Additionally, the 3GPP specifications followed a clear numbering scheme to help the public, including interested POSITAs, identify the subject matter of each specification. **Appendix 12** at 1. As described on the 3GPP Numbering Scheme webpage, all 3G and GSM specifications had a specification number of 4 or 5 digits, where the first two digits defined the series. **Appendix 12** at 1. The Numbering Scheme webpage included a table showing the subject matter corresponding to each series. **Appendix 12** at 1. For example, the "25 series" focused on UMTS Terrestrial Radio Access (UTRA) aspects. **Appendix 12** at 1. An interested POSITA could narrow down the relevant specifications based on whether the specification applied to only to 3G, to GSM, or to GSM and 3G (GSM only

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specifications were transferred from ETSI to 3GPP in July 2000). For a specification in the 21–35 series, this could be determined based on the third digit of the specification number, where a "0" would indicate that the specification applied to both systems. Specifications outside the 21–35 series in the 2000 – 2005 timeframe applied only to GSM systems. **Appendix 12** at 1.

34. The specifications were stored on the 3GPP website's file repository as zipped files, where the filenames followed the structure: SM[-P[-Q]]-V.zip. This format corresponded to the numbering scheme discussed in paragraph 33. "S" represented the series number; "M" represented the mantissa (the part after the series number); "P" represented an optional part number; "Q" represented an optional sub-part number; and "V" represented the version number (without the separating dots). **Appendix 12** at 1.

35. The Working Groups would create incremental versions of the draft specifications (*e.g.*, V0.2.1, V1.0.0, V1.1.0, etc.). These versions were made available on the 3GPP website's file repository which is accessible from the 3GPP specifications page. The version numbering scheme for Technical Specifications and Technical Reports was standardized by 3GPP. The version number included three fields: the major version field, the technical version field, and the editorial version field. **Appendix 13** at 1. The major version field reflects the stage of the specification, with "0" representing an immature draft and a value of "3" or greater

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representing a specification that has been approved by the relevant TSG and thus placed under change control. **Appendix 13** at 1. The technical version field begins at zero and is incremented every time a technical change is made to the specification (either as part of the drafting process or as part of an approved change request). **Appendix 13** at 1. The editorial version field begins at zero and is incremented each time a non-technical change is made to the specification (*e.g.*, to fix a typo or formatting issue). **Appendix 13** at 1.

36. I understand that the alleged invention in the ’059 patent relates to cellular telecommunications networks, and more particularly to detecting erroneous sequence numbers in acknowledged mode operation in a wireless communication system. Any POSITA interested in detecting erroneous sequence numbers in acknowledged mode operation in a wireless communication system would have been monitoring 3GPP’s activities in this area and would probably have been already participating as a full or associate member or observer in the standard development process or would have at least known that information regarding the proposed revisions to the technical specifications under discussion were available through 3GPP.

2. 3GPP TDocs

37. As mentioned in paragraph 29, the technical specifications and reports developed by 3GPP were and are driven by the technical contributions of 3GPP

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member companies. As part of that development process, various types of documents were produced and submitted. As relevant to this case, the 3GPP process involved the consideration of temporary documents or "TDocs," which are also referred to as proposals, contributions, or change requests. The agreement of proposals submitted as TDocs results in the production of technical specifications.

38. Prior to each Working Group meeting, members of the Working Group would prepare TDocs to identify, discuss, and/or propose a new feature or change(s) to an existing feature or to identify a technical issue for discussion. Interested POSITAs would have known that TDocs could be a helpful source of technical information regarding the 3GPP specifications.

39. Each TDoc was assigned a TDoc number, according to a standard format set by 3GPP.[1] As described in the 3GPP Working Procedures, the numbering system followed the format Gxmnnzzz. **Appendix 5** at 16. This general naming convention has been in use since at least 1999 with only minor variations. Within that format, "x" referred to the relevant TSG. For example, "R" was used for TSG RAN. Likewise, "m" referred to the relevant Working Group. **Appendix 5** at 16. A document for RAN WG2 would therefore begin with "R2". The two digits "nn" represented the year (*e.g.*, 05), and the digits "zzz" represented the unique document

[1] Documents other than technical contributions (such as meeting reports) were also assigned TDoc numbers for ease of reference.

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number. This document number was used as the TDoc's filename.

40. Each TDoc would include in its header the meeting at which the contributor intended the TDoc to be discussed. Most TDocs were uploaded to the 3GPP website for public viewing prior to the relevant Working Group meeting listed on the TDoc, although some TDocs including those created at meetings, were uploaded during or after the meeting. The documents were uploaded to the public file repository in an area allocated to the particular Working Group. **Appendix 10** at 8; Immediately upon upload, any member of the public could download and access the TDocs and other documents offered for discussion. This process has been in place since I began attending Working Group meetings in 1999.

E. The 3GPP Website's Public File Repository

41. All TDocs, technical reports, and technical specifications were also freely available to interested member of the public through the public file repository accessible via the 3GPP website. Interested members of the public would have been well aware of 3GPP and of the 3GPP website. 3GPP documents were accessible to any member of the public through the 3GPP website without providing any login credentials or other exclusive access criteria.

42. It is my recollection that, during the 2000 – 2005 timeframe, any interested member of the public could locate relevant documents of interest on the 3GPP website using reasonable diligence based on the website's indexing scheme

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or the TDoc's naming convention. The documents on the 3GPP website were (and remain) organized according to the relevant Working Groups within 3GPP (each of which focused on particular subject matter) and then further organized based on the meetings of those groups. POSITAs would have known which Working Groups focused on particular subject matter.

43. An interested member of the public could locate documents of interest by first navigating a web browser to the 3GPP website (www.3gpp.org). In the 2000 timeframe, to locate documents from the 3GPP home page, a user could have clicked "3G Specifications" **Appendix 14**. The corresponding webpages contained links to the 3GPP's public file repository. **Appendix 11** at 2. Instead of accessing the 3GPP file repository from the 3GPP website home page, a user could have also accessed the file repository directly through the web address www.3gpp.org/ftp or using ftp client software connected to ftp.3gpp.org. A POSITA was also able to search for relevant documents using keywords on the search facility on the 3GPP website from at least 2000. **Appendix 14**.

44. The top two levels of indexing within the file repository were based wholly on subject matter, as reflected by the division of subject matter among the various TSGs and Working Groups, or into various "Specs". Specifically, an individual could select the relevant directory covering the subject matter of interest. **Appendix 15**.

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45. If the individual were interested in the specifications of 3GPP, they would click "specs". From there, the individual could click on the particular version and release they were interested in. **Appendix 16**. **Appendix 17**. **Appendix 18**. **Appendix 19**.

46. In my experience, whilst the servers used for 3GPP file repository and many of its directories have been updated since 1999, and directories may as a result have later dates associated with them (*e.g.*, reflecting the last time they were modified in some way or their contents were updated), the original upload date for files including specifications has always been preserved, providing a true and accurate indication of their earliest availability for download.

47. 3GPP's public file repository provides a reliable mechanism for identifying the date and time a document was uploaded to the website and then available to download for public viewing. When a document is uploaded, the file server automatically assigns the document a time stamp—*i.e.*, an accurate and automatically computer-generated electronic record of when the document was uploaded—as part of the regular practices of 3GPP. This has been the practice regarding uploading documents to the 3GPP file repository since 3GPP was inaugurated, and my personal experience confirms that the time stamps have always been a reliable way to determine when a file was uploaded to the 3GPP website and immediately available for public download.

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IV. 3GPP EXHIBITS

A. Ex. 1004: 3GPP TS 04.60 v8.6.0 (2000-10): "3rd Generation Partnership Project; Technical Specification Group GSM EDGE Radio Access Network; General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/ Medium Access Control (RLC/MAC) protocol (Release 1999)"

48. 3GPP TS 04.60 v8.6.0 is a Technical Specification titled "3rd Generation Partnership Project; Technical Specification Group GSM EDGE Radio Access Network; General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/ Medium Access Control (RLC/MAC) protocol (Release 1999)". The date on the face of the specification ("2000-10") corresponds to the year (2000) and month (October) that this version of the specification was approved by 3GPP TSG GERAN and subsequently made publicly available.

49. 3GPP TS 04.60 v8.6.0, being an approved version of the Release 99 specification of GSM/GPRS RLC/MAC protocol was approved by TSG GERAN #1 held August 29 – September 1, 2000. An interested member of the public would know that the latest version of an approved specification or report would be available following the plenary meeting responsible for that specification (in this case TSG RAN) in accordance with 3GPP standard practice as described in paragraphs 31. The approval of the TS 04.60 v 8.6.0 is confirmed by the presence of TS 04.60 v8.6.0 on

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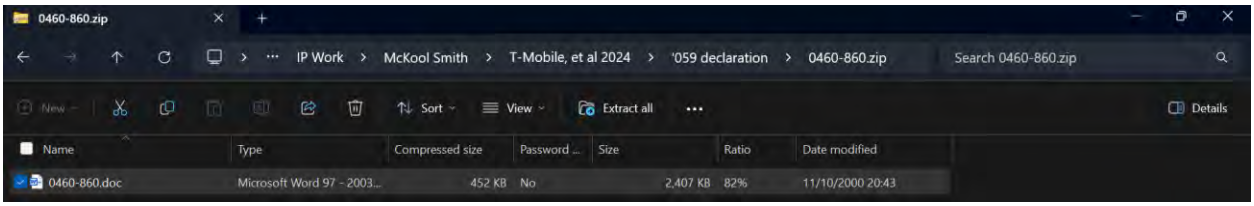
the 3GPP file server from October 2000, and approval of the Change Requests to release 99 of TS 04.60 documented in the meeting report from TSG GERAN #1 (**Appendix 20** at 156, 157).

50. The 3GPP file server is and always has been open to all and free from restriction such as username or password. By way of different example to that in paragraphs 41 and 42 above, of how an interested member of the public can access the TS 04.60 v8.6.0 technical specification from the 3GPP website, I accessed the file server by going to the 3GPP website at http://www.3gpp.org/, selected "Specifications & Technologies" from the menu bar, and then selected "Specifications by series" from the dropdown menu. I then selected the "04 Series" link to access the public file server where the specifications are stored. I then searched for "04.60" in the specification number search bar, and for the TS 04.60 specification selected the eyeglasses icon that says "See details" when a cursor is placed on it. From there, I selected "Click to see all versions of this specification," which took me to the archive housing all versions of TS 04.60 found at the following URL: https://www.3gpp.org/ftp/Specs/archive/04_series/04.60. A true and correct copy of the relevant portion of the directory listing produced by the file server website is provided below and in **Appendix 21** at 2.

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0460-850.zip	2000/07/17 15:09	360,1 KB
0460-860.zip	2000/10/11 18:43	451,9 KB
0460-870.zip	2000/11/27 10:25	420,3 KB

51. The archive directory index stated that TS 04.60 v8.6.0 was uploaded on "2000/10/11". Selecting the link for "0460-860.zip", I downloaded a zip file of the same name. The zip file contained a Microsoft Word document titled "0460-860.doc" with a date stamp of "11/10/2000" (European date format), the same day that the zip file was uploaded. An excerpt of the zip file directory is provided below.



52. I have confirmed that the document "0460-860.doc" is TS 04.60 v8.6.0. A true and correct copy of the Microsoft Word document titled "0460-860.doc" is the TS 04.60 v8.6.0 that is provided in Ex. 1004.

53. Based on my experience, I understand these date stamps to mean that 0460-860.zip was uploaded to 3GPP's publicly available website on October 11, 2000, and that an interested member of the public could have downloaded the zip file, extracted the Word document enclosed, viewed the contents of the Word document, and further disseminated said document without restriction on October

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11, 2000 and thereafter.

B. Ex. 1005: 3GPP TS 25.322 v6.3.0 (2005-03): "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Radio Link Control (RLC) protocol specification (Release 6)"

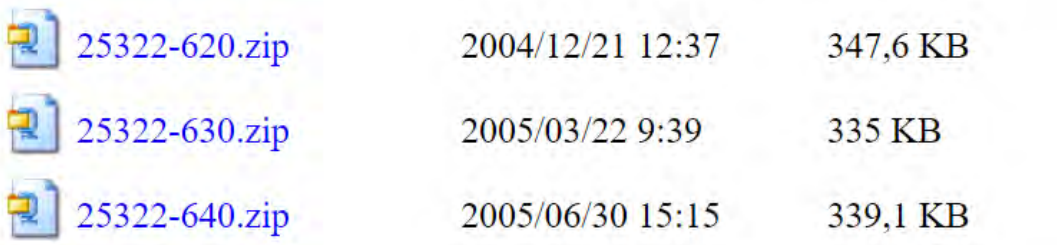
54. 3GPP TS 25.322 v6.3.0 is a Technical Specification titled "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Radio Link Control (RLC) protocol specification (Release 6)". The date on the face of the specification ("2005-03") corresponds to the year (2005) and month (March) that this version of the specification was approved by 3GPP TSG RAN and subsequently made publicly available.

55. 3GPP TS 25.322 v6.3.0 being an approved version of the Release 6 specification of evolved UTRA Radio Resource Control protocol was approved by TSG RAN #27 held March 9 – 11, 2005. An interested member of the public would know that the latest version of an approved specification or report would be available following the plenary meeting responsible for that specification (in this case TSG RAN) in accordance with 3GPP standard practice as described in paragraphs 31. The approval of the TS 25.322 v6.3.0 is confirmed by the approval of the Change Requests to TS 25.322 v6.2.0 documented in the meeting report from TSG RAN #29 (**Appendix 22** at 49).

56. The 3GPP file server is and always has been open to all and free from

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restriction such as username or password. By way of different example to that in paragraphs 41 and 42 above, of how an interested member of the public could access the TS 25.322 v6.3.0 technical specification from the 3GPP website, I accessed the file server by going to the 3GPP website at http://www.3gpp.org/, selected "Specifications & Technologies" from the menu bar, and then selected "Specifications by series" from the dropdown menu. I then selected the "25 Series" link to access the public file server where the specifications are stored. I then searched for "25.322" in the specification number search bar, and for the TS 25.322 specification selected the eyeglasses icon that says "See details" when a cursor is placed on it. From there, I selected "Click to see all versions of this specification," which took me to the archive housing all versions of TS 25.322 found at the following URL: https://www.3gpp.org/ftp/Specs/archive/25_series/25.322. A true and correct copy of the relevant portion of the directory listing produced by the file server website is provided below and in **Appendix 23** at 2.

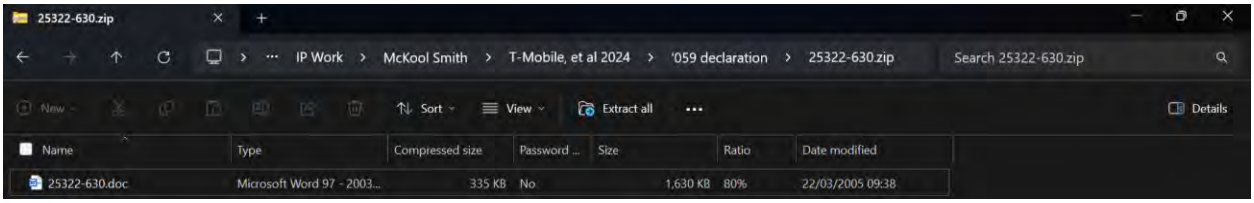


25322-620.zip	2004/12/21 12:37	347,6 KB
25322-630.zip	2005/03/22 9:39	335 KB
25322-640.zip	2005/06/30 15:15	339,1 KB

57. The archive directory index stated that TS 25.322 v6.3.0 was uploaded on "2005/03/22". Selecting the link for "25322-630.zip", I downloaded a zip file of

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the same name. The zip file contained a Microsoft Word document titled "25322-630.doc" with a date stamp of "22/03/2005" (European date format), the same day that the zip file was uploaded. An excerpt of the zip file directory is provided below.



58. I have confirmed that the document "25322-630.doc" is TS 25.322 v6.3.0. A true and correct copy of the Microsoft Word document titled "25322-630.doc" is the TS 25.322 v6.3.0 that is provided in Ex. 1005.

59. Based on my experience, I understand these date stamps to mean that 25322-630.zip was uploaded to 3GPP's publicly available website on March 22, 2005, and that an interested member of the public could have downloaded the zip file, extracted the Word document enclosed, viewed the contents of the Word document, and further disseminated said document without restriction on March 22, 2005 and thereafter.

V. CONCLUSION

60. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were

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made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

July 18, 2024



Printed Name: Craig Bishop

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APPENDIX 1

Curriculum Vitae

Name: Craig Bishop

Contact Tel No.: +44 (0)7984 564949 (mobile)

Email: craig@bishopcom.co.uk

Current job title: Independent Consulting Engineer, CEO

Address: 43 Ospringe Street, Faversham, Kent, ME13 8TW

Key Skills and Experience

- 35 years Telecoms, Radio and Broadcast experience
- 27 years experience of 2G/3G/4G telecoms standardisation
- Extensive knowledge of 3GPP and ETSI specifications and procedures including document handling and publication practices
- Sound understanding of 3GPP systems, including Radio Access Interfaces and Networks, Access Stratum protocols, Core Networks, Non-Access Stratum protocols, and IMS
- Experience of ETSI role from regulatory perspective (harmonised standards, mandates, spectrum, etc)
- Depositions, reports, and declarations as expert witness in cases on 3GPP technologies and on 3GPP & ETSI practices and procedures.
- Intellectual property analysis including prior art search and evaluation of patent essentiality
- Application of data analytics and machine learning techniques to standards and IP data
- Programming in Java, Python, C, Octave (Matlab)

Career History

Bishop Communications Ltd. 01/13 –

Independent Telecommuncations Standards and Intellectual Property Consultant

Company is a full ETSI member

Activities have included:

- Provision of expert support for IPR litigation from standards landscape analysis / background technical reports to expert testimony reports / declarations and depositions on matters including the public availability of 3GPP and ETSI prior art.
- Intellectual property analysis assessing strengths and weaknesses of patents and patent portfolios, conducting searches for prior art, evaluating patent essentiality, and acquring relevant documentation.
- Provision of expertise for EC funded ETSI Specialist Task Force (STF489) to produce implementation guidelines for Total Conversation for emergency services. Project delivered on time / budget and well received. Ouput published March 2016 as ETSI TR 103 201.
- Provision of expertise for ETSI Specialist Task Force (STF555) assessing the impact on existing standards of communications involving IoT devices in all types of emergency situations. Project delivered on time / budget and well received. Ouput published July 2019 as ETSI TR 103 582.
- Provision of standards consultancy services for Samsung Electronics in ETSI including membership of the ETSI Board until November 2014

Technologies covered in patent related work include: 3GPP GSM, UMTS, LTE, 5G NR radio interface technologies (Phy, MAC, RLC, RRC), 3GPP access and core networks (GPRS/UMTS & EPC NAS), IMS. Organisations covered include 3GPP & ETSI.

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Clients served / represented include: ADT, Apple, AT&T, Blackberry, Cradlepoint, DELL, Ericsson, Honeywell, HTC, Huawei, LG, Lenovo, Motorola, Nokia, Oneplus, Oppo, Samsung, Sierra Wireless, Thales, T-Mobile, Sprint, Verizon, Vodafone, Xiaomi, ZTE.

Working with: Addy Hart LLP, Alston & Bird LLP, Baker Botts LLP, Banner Witcoff LLP, DLA Piper LLP, European Telecommunications Standards Institute (ETSI), Fish & Richardson P.C., Gibson Dunn LLP, Haynes and Boone LLP, Hillebrand-CE GmbH, Kirkland & Ellis LLP, K&L Gates LLP, MckoolSmith LLP, PV Law LLP, Paul Hastings LLP, Perkins Coie LLP, Powell Gilbert LLP, Sidley Austin LLP, Samsung Electronics Research & Development Institute UK (SRUK), Taylor Wessing LLP, Williams & Connolly LLP, WilmerHale LLP.

Expert testimony through deposition:

- *Huawei Technologies Co. Ltd. vs. T-Mobile US, Inc., et al.*, Case Nos. 2:16-cv-0052-JRG-RSP, 2:16-cv-0055-JRG-RSP, 2:16-cv-0056-JRG-RSP, and 2:16-cv-0057-JRG-RSP (E.D. Tex.). On behalf of T-Mobile US Inc.
- *T-Mobile US, Inc., et al.* v. *Huawei Technologies Co. Ltd.*, Case Nos. IPR2017-00696 and IPR2017-00697 (PTAB). On behalf of T-Mobile US Inc.
- *LG Electronics, Inc., v. Koninklijke KPN N.V.*, Case No. IPR2018-00558 (PTAB). On behalf of LG Electronics, Inc.
- *Nokia of America Corp. and Ericsson Inc. v. IPCOM, GMBH & Co.,* Case No. IPR2021-00533 (PTAB). On behalf of Ericsson Inc.
- *IPCom, GmbH & Co., Plaintiff, v. AT&T Inc., et al, Defendant, Nokia of America Corp., Intervenor, Ericsson Inc., Intervenor.,* Civil Action No. 2:20-CV-322-JRG*, and IPCom, GmbH & Co., Plaintiff, v. Verizon Communications, et al., Defendant, Nokia of America Corp., Intervenor, Ericsson* nc*., Intervenor.,* Civil Action No. 2:20-CV-323-JRG. On behalf of Ericsson Inc.
- *Ericsson Inc. v. Koninklijke KPN N.V.,* Case No. IPR2022-00069 (PTAB). On behalf of Ericsson Inc.

Expert testimony in court:

- *Between IPCom GmbH and Vodafone, et al.,* Claim No. HP-2018-000030 Claim No. HP-2018-000031, High Court of Justice, Business & Property Courts of England and Wales, Intellectual Property List (ChD), Patents Court. Retained by Vodafone.
- *Between (1) Mitsubishi Electric Corporation (2) Sisvel International SA and Oneplus Mobiletech UK Limited, Oppo Mobile UK Ltd, Xiaomi Technology UK Limited, et al.,* Claim No. HP-2019-000014, High Court of Justice, Business & Property Courts of England and Wales, Intellectual Property List (ChD), Patents Court. Retained by Oneplus, Oppo, and Xiaomi (trial held remotely due to COVID-19 restrictions)

Samsung Electronics Research Institute (SERI) 12/96 – 01/13

Director Standards and Industry Affairs 03/11 – 01/13

Mission and Tasks as for previous role plus:

- Proactive member of ETSI Board following election as Board member in November 2011
- Worked with Samsung internal and external legal counsel in response to EC investigation into Samsung suspected abuse of Standards Essential Patents.
- Deposed by Apple as fact witness in ITC investigation 337-TA-794.

Head of Advanced Technologies Standards & Regulation 09/05 - 03/11

Mission: To help position Samsung and SERI at the forefront of mobile telecommunication developments through participation in and leadership of mobile communications standards and European regulatory affairs

Key tasks:

- Developed standards and research strategy and coordinated activites with head office, acting as official Samsung contact for the European Telecommunications Standars Institute.
- Programme managed standardisation and regulation projects covering 3GPP (RAN2, CT1, SA2, SA1, SA, RAN, CT), OMA, and mobile Broadcast strategies and technologies (DVB Forum), European Framework projects (FP7), Spectrum Management (CEPT, ETSI EM, TFES, BRAN, …) and European Regulatory affairs (Digital Europe, relations with European Commission, …). - Grew department from 3 to 12 persons to cater for these activities.
- Participated and actively contributed to 3GPP SA1 (11/08 – 11/11), SA2 (10/05 – 08/11) , SA and ETSI TC SCP groups on issues including IMS / CS Interworking (VCC / SRVCC, VoLTE, T-ADS, ICS), Local IP Access & Selected IP Traffic Offload (LIPA-SIPTO), MOSAP, M2M/MTC, Embedded / 4FF UICC.
- Drafted and filed communication technology related patents related to 3GPP SA2 and CT1 technologies – 18 filed, mainly IMS and 3GPP NAS related
- Supported Samsung IP team with analysis of Samsung and 3rd party communication technology related patents and claim charts including GSM/GPRS, UTRAN, NAS, and IMS patents
- Chaired SERI Patent Committee from 2007-2009 - SERI achieved patent targets for first time in 2007 and did so in every year following

Standards consultant – part time 09/04 – 09/05

(Whilst studying fulltime for MSC)

During this time, I conducted a review of the wireless communication technolgies and the associated standards space, with a particular emphasis on 802.16a, as well as 3G and 802.11 evolutions. I was also involved in analysis of 3rd party patents and claim charts on request from Samsung IP team.

Technology Manager System Engineering group 06/03 – 09/04

Mission: To establish a System Engineering group within SERI to support development of SERI's dual mode GSM/UMTS radio modem platform.

Key Tasks:

- Defined and implemented System Engineering group strategy including recruitment and line management of the group which grew from 3 to 10 engineers during this period.
- Developed detailed system requirements for SERI's dual mode 2G/3G radio modem platform(s) including production of background documentation describing system wide behaviour
- Defined system test programme for platform, including example test cases using off the shelf test equipment. This project outsourced (under my supervision) to a third party company for completion.
- Provided continued support to development engineers in terms of understanding specification and system requirements, particularly with respect to Access Stratum and Non Access Stratum specifications and protocols.
- Instigated and managed studies investigating optimised system architecture for future Samsung mobile platforms.
- Analysed Samsung and 3rd party 3GPP technology related patents and claim charts on request by Samsung IP team and reported on their value and standards essentiality.

Technology Manager Standards & System Group 04/02 – 06/03

Mission: To provide Standards support to SERI development teams and Samsung's global standardisation activities.

Key Tasks:

- Devised and implemented revised strategy to improve the focus of activities and provide improved support for software developers from a system perspective.

- Attended 3GPP TSG SA plenary and occasional SA WG1 meetings - acted as rapporteur for 3GPP Evolution technical report 3GPP TR 21.902.
- Analysed 3rd party GSM/GPRS technology related patents and claim charts on request by Samsung IP team and reported on their value and standards essentiality.
- Line managed 3 engineers, ensuring that the group provided expert support for SERI SW and HW developers in terms of standards interpretation and system requirements, particularly with respect to the Radio Access Network.

Project Manager 04/00 – 04/02

Mission: To establish and manage development of a dual mode GSM/UMTS modem platform.

Key tasks:

- Defined and managed work relating to core technology development for Samsung's 3G handsets.
- Determined major technical architecture and parameters for the platform producing high level system requirements specification and project development plan.
- As a technical authority on UMTS, supported the project in terms of requirements specification and interpretation (L1, MAC/RLC, RRC, and NAS specifications), and contributed towards the training of UMTS project team members.
- Acting in a consultative capacity, interfaced with other departments in Samsung and with external customers/suppliers on issues relating to 2G and 3G technologies
- Responsible for the overall planning, work allocation and co-ordination of engineers for the project, as well as being involved in recruitment – during this period the number of engineers working on the project increased from 10 to over 40.
- Instigated, defined and managed a feasibility study involving HW and SW engineers, as essential preparation for the development of a dual mode GSM/UMTS radio modem platform.

Senior/Principal Standards Engineer 12/96 – 04/00

Mission: To support Samsung standards and development activities in ETSI and 3GPP.

Key Tasks:

- Gathered and disseminated information throughout Samsung concerning latest specifications and trends in telecommunications, providing advice to Senior Management on future strategies for telecommunications development.
- Acted as sole Samsung representative in ETSI TC SMG2 from December 1996 and during the selection phase for the UMTS Radio Acces Technology providing training for Samsung engineers on elaborated technologies
- Participated in 3GPP TSG RAN WG1 (UTRA Physical Layer), and RAN WG2 (L2/3) contributing specifically in areas related to FEC, Common Packet Channel, and Transmit Diversity
- In 3GPP TSG T WG2 I initiated and acted as rapporteur for the UE capabilities work item. I also acted as liaison officer between TSG T WG2, TSG RAN WG1 and TSG SA WG1 (Service Aspects) on issues of common interest
- Acted as main spokesperson for and advisor on Samsung strategic activities in, 3GPP TSG RAN from 3GPP's creation until April 2000
- Acted in a consultative capacity advising the company on technical, commercial and regulatory issues relating to 3rd generation telecommunications development and implementation.
- Developed and promoted programme to co-ordinate standards activities throughout Samsung. – Samsung Global Standards Strategy Group established in September 1998.
- Attended ETSI TCs, SMG1, SMG4, SMG5, SMG7, SMG9 and SMG11 as required by Samsung to keep abreast of developments prior to establishment of 3GPP

Radiocommunications Agency 06/93 -11/96

HPTO Spectrum Engineer

- Responsible for the management of spectrum for use by PMR and Wireless LAN technologies.
- Defined and instigated development of an improved assignment methodology for Private Mobile Radio (PMR) channels, promoting increased quality and spectrum efficiency.
- Managed research projects involving the assessment and selection of bids from external companies, submitted under competitive tender.
- Represented the Agency in the National and International fora associated with the use of Land Mobile Radio, acting as rapporteur for PMR voice and data standards in ETSI Sub-Technical-Committee RES02, and as chairman of a sub-working group under ITU WP8A drafting the recommendation for use of the radio spectrum by Radio LANs.
- Involved in CEPT Spectrum Engineering Project Teams, dealing with spectrum for Narrow band PMR technology and co-ordination between that technology and T-DAB transmissions in Band III.
- Dispensed technical advice both within the Agency and to external customers, on national and international PMR standards, assessing requests for additional frequencies, and providing technical justification for assignments and wider spectrum policy

BBC Radio 11/89 – 05/93

Radio Operations Engineer

- Worked on projects requiring the design, development, maintenance and testing of equipment for use within the broadcasting chain.
- Responsible for acceptance testing of new studios for Radio 5, and in particular redesign of outside source circuits for the main sports continuity studio.
- Involved in acceptance testing for NICAM transmission routers. Designed and implemented modifications to synchronise transmission feeds, resulting in seamless switching between routers.

Education

1. MSC in Computer Science from the University of Kent

   Awarded (with distinction): 07/2006

   Dissertation title: Roles Variables and Program Analysis – Received prize for outstanding achievement

2. B.Eng. (Hons) in Electronic Engineering from the Polytechnic of Central London

   Awarded: 07/1989

3. In house and external technical and management training including: Learning Tree courses on System Analysis and Design, User Requirements, UML, and Project Management.
4. On-line courses from: Cousera, Udemy, and Zenva courses covering Machine Learning, Python, Data Science, and Natural Language Processing

APPENDIX 2

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THIRD GENERATION PARTNERSHIP PROJECT (3GPP)

PARTNERSHIP PROJECT DESCRIPTION

During the meeting held in Copenhagen, 2 - 4 December 1998 ARIB, ETSI, T1, TTA and TTC agreed this Partnership Project Description.

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Preamble

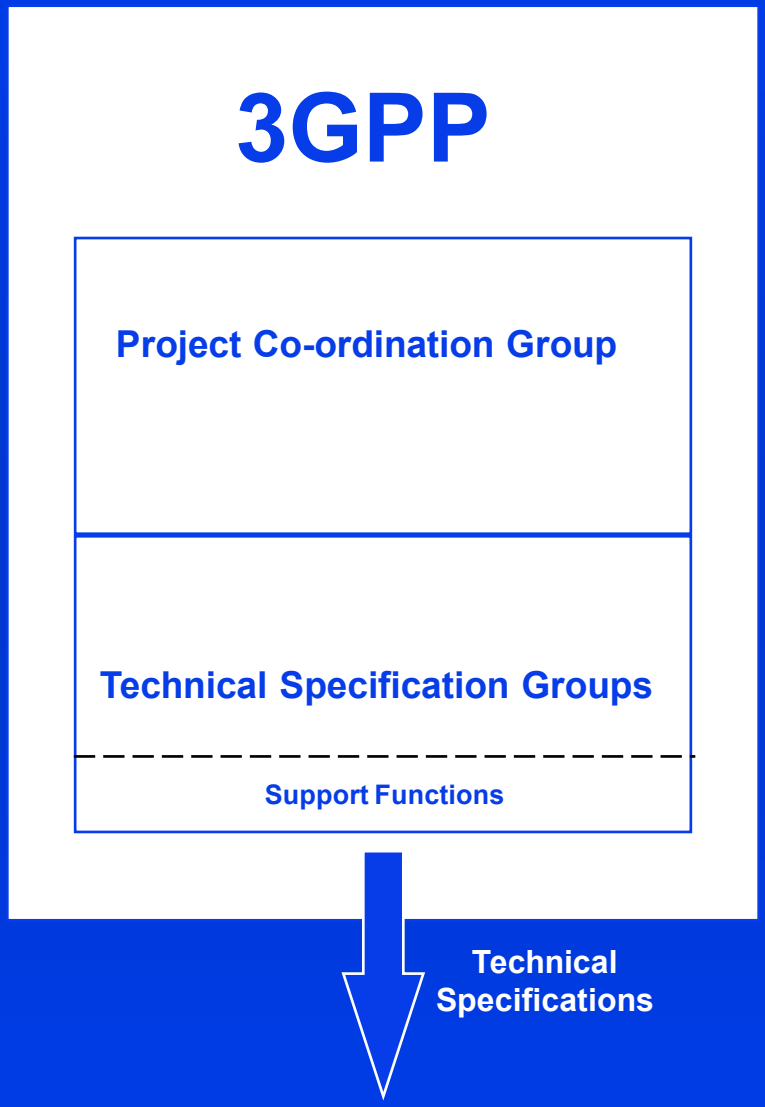
Standards organizations and other related bodies have agreed to co-operate for the production of a complete set of globally applicable Technical Specifications for a 3rd Generation Mobile System based on the evolved GSM core networks and the radio access technologies supported by 3GPP partners (i.e., UTRA both FDD and TDD modes).

The Project is entitled the "Third Generation Partnership Project" and may be known by the acronym "3GPP".

3GPP has been established for the preparation and maintenance of the above mentioned Technical Specifications, and is not a legal entity.

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3GPP Overview



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Definition of the Third Generation Partnership Project

3GPP will provide globally applicable Technical Specifications for a 3rd Generation Mobile System based on the evolved GSM core network, and the Universal Terrestrial Radio Access (UTRA), to be transposed by relevant standardization bodies (Organizational Partners) into appropriate deliverables (e.g., standards).

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Scope and objectives (1)

The Technical Specifications will be developed in view of global roaming and circulation of terminals.

The 3rd Generation Mobile System and its capabilities will be developed in a phased approach. Initially, 3GPP will elaborate, approve and maintain the necessary set of Technical Specifications for the first phase of a 3rd Generation Mobile System including:

- **UTRAN (including UTRA; W-CDMA in Frequency Division Duplex (FDD) mode and TD-CDMA in Time Division Duplex (TDD) mode)**
- **3GPP Core Network (Third Generation networking capabilities evolved from GSM . These capabilities include mobility management and global roaming.)**
- **Terminals for access to the above (including specifications for a UIM)**
- **System and service aspects**

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Scope and objectives (2)

The set of global specifications for the first phase of the 3GPP core network and the specifications for the GSM core network should be common to the largest extent possible and should not be needlessly different.

The results of the 3GPP work will form the basis of member contributions to the ITU in accordance with existing procedures.

3GPP will take account of emerging ITU recommendations on interworking between IMT-2000 family members.

In the framework of agreed relationships, 3GPP will elaborate Technical Specifications that will form the basis of standards, or parts of standards, of the Organizational Partners.

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Characteristics of 3GPP (1)

3GPP is characterized by the following attributes:

- **Minimum production time for Technical Specifications from conception to approval**
- **Fast, electronic based approval process**
- **Maximum use of modern (electronic) working methods**
- **Minimum number of hierarchical levels with decision making taking place at the lowest appropriate levels**

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Characteristics of 3GPP (2)

- **A Project Co-ordination function and a Technical Specification function**
- **Task oriented, ensuring that on completion of the tasks the future of the project is re-evaluated**
- **Cost effective use of financial/human resources provided by Partner Organizations (if required)**

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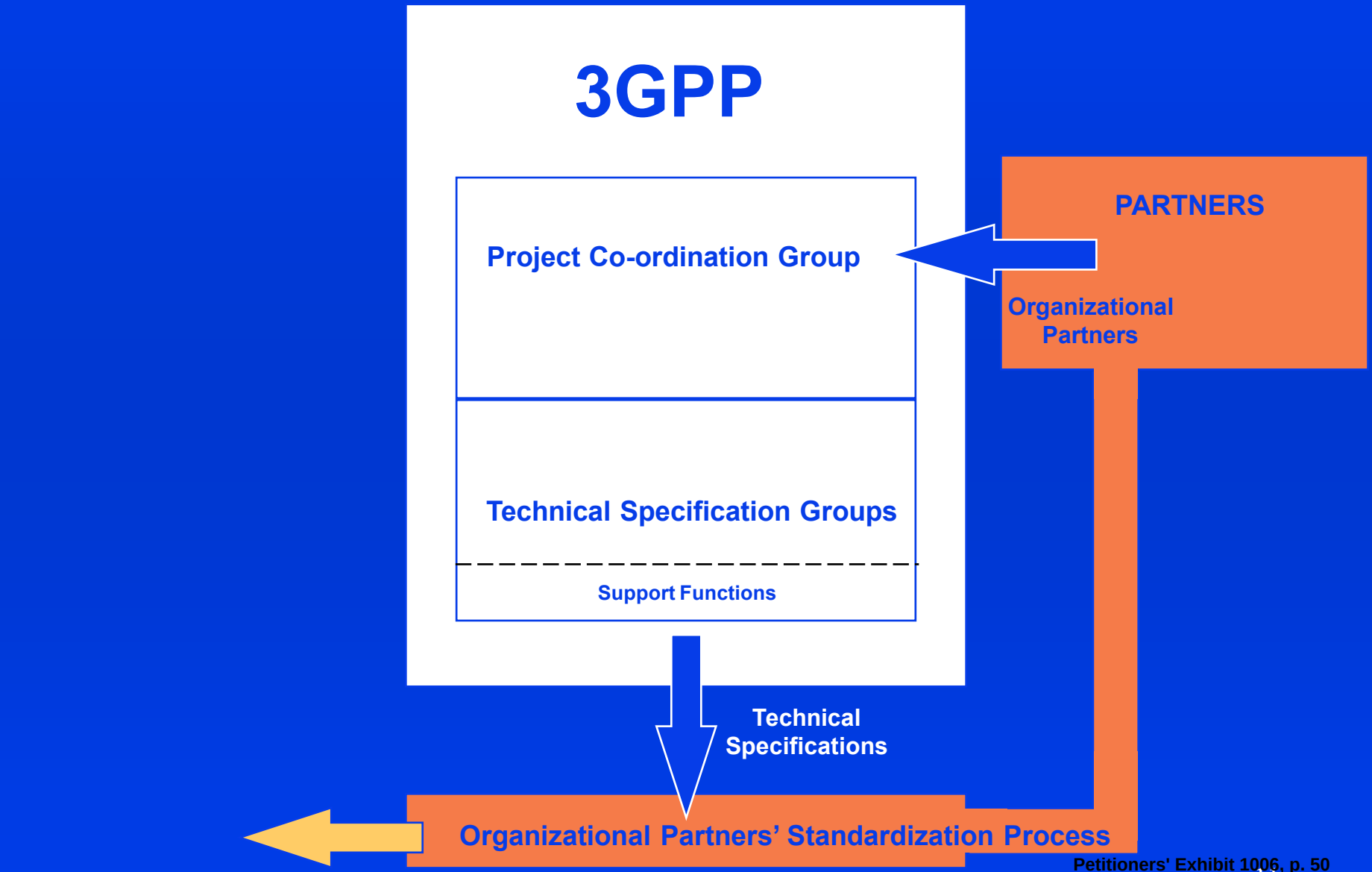
Partnership and Membership

3GPP comprises of:

- **Partners:**
  - **Organizational Partners**
    - **3GPP is open to all standards organizations irrespective of the geographical location.**
  - **Market Representation Partners**
- **Individual Members**

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Organizational Partners (1)



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Organizational Partners (2)

An Organizational Partner is:

An open standards organization with a national, regional or other officially recognized status (in their country or region)

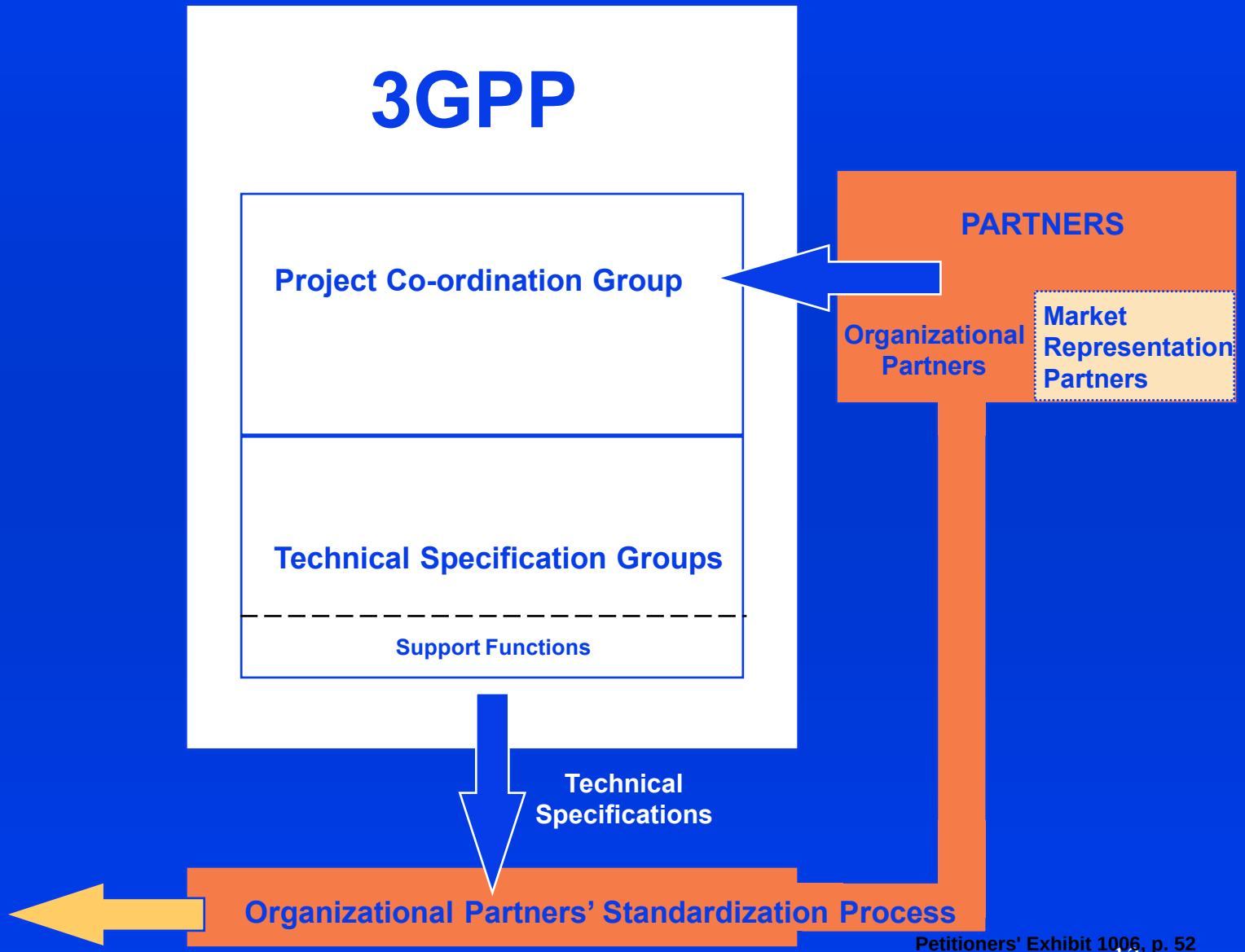
that:

- **has the capability and authority to define, publish and set standards nationally or regionally and**
- **has signed (or whose sponsor has signed) the Partnership Project Agreement**

Organizational Partners will meet as approriate and make decisions by consensus.

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Market Representation Partners (1)



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Market Representation Partners (2)

Standardization should meet market needs.

In order to identify market requirements, the high competence of Market Representation Partners should be used.

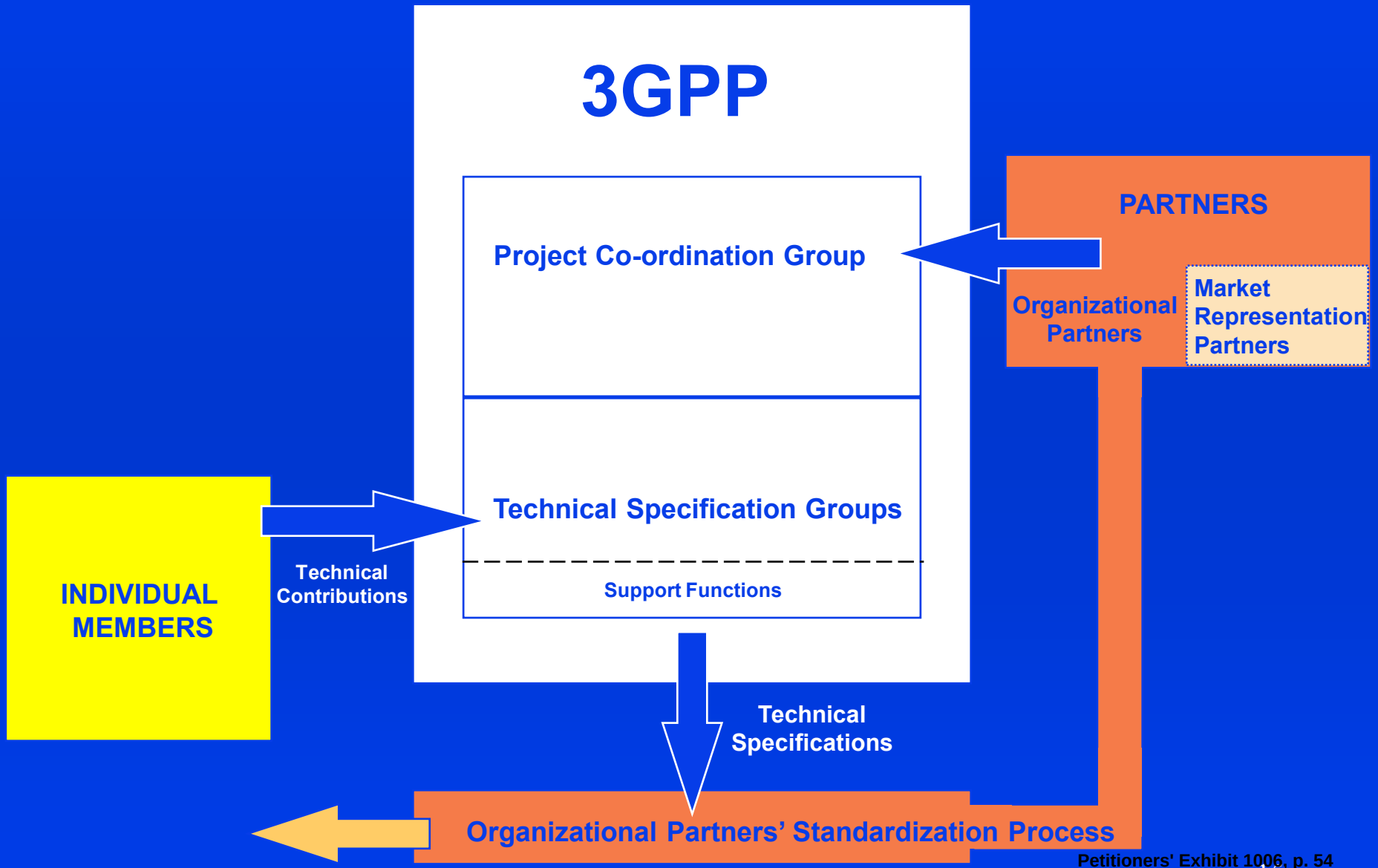
A Market Representation Partner is an organization invited to participate by the Organizational Partners to offer market advice to 3GPP and to bring into 3GPP a consensus view of market requirements (e.g. services, features and functionality) falling within the 3GPP scope.

A Market Representation Partner:

- **does not have the capability and authority to define, publish and set standards nationally or regionally**
- **has signed (or whose sponsor has signed) the Partnership Project Agreement**
- **has committed itself to the 3GPP scope**

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Individual Members (1)



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Individual Members (2)

Membership in an Organizational Partner is a pre-requisite for Individual Membership in 3GPP.

Individual Membership is open to legal entities committed to support 3GPP and to:

- **contribute technically or otherwise to one or more of the Technical Specification Groups within the 3GPP scope**
- **use the 3GPP results to the extent feasible**

Individual Membership in 3GPP will be terminated by dissolution, abolition, resignation or expulsion from the related Organizational Partner.

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Individual Members (3)

All entities registered as members of an Organizational Partner and eligible for participation in the technical work of that Partner, can become Individual Members of 3GPP. Individual members shall apply to their Organizational Partner to participate in 3GPP.

Individual Members act in the 3GPP in their own right; they carry the full responsibility for their contributions.

Individual Membership applicants residing in a country/area without an Organizational Partner can apply for membership in an Organizational Partner according to the rules of each Partner. (e.g. ETSI Associate Membership is available)

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Observership

In order to ensure globally applicable Technical Specifications, the status of "Observer" may be granted by the Organizational Partners to an entity which has the qualifications to become a future Organizational Partner. The status of "Observer" includes obligations to:

- **identify as early as possible any regulatory requirements that may lead to options within Technical Specifications**
- **make their IPR policy available for consideration**
- **contribute to the common objective of the 3GPP and avoid duplication of work related to the 3GPP**

The participation rights of an Observer will be decided on a case by case basis.

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The following 3 documents describe 3GPP:

- **The Partnership Project Agreement**
- **The Partnership Project Description (this present document)**
- **The Partnership Project Working Procedures**

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The Partnership Project Agreement (1)

The Partnership Project Agreement is a concise legal document signed by participating Partners (or their sponsor).

It contains the minimum legal text necessary for 3GPP to function correctly.

The Partnership Project Agreement refers to the Partnership Project Description and the Partnership Project Working Procedures.

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The Partnership Project Agreement (2)

The Partnership Project Agreement includes obligations on Organizational Partners to commit themselves to the 3GPP scope:

- **to encourage their members to contribute to the common set of Technical Specifications and to avoid duplication of work**
- **to convert / transpose / adopt all relevant Technical Specifications resulting from 3GPP into their own relevant deliverables through their normal processes**
- **to identify as early as possible, any national / regional regulatory requirements that may lead to options within the Technical Specifications**
- **to make their IPR Policy available for consideration**

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The Partnership Project Agreement (3)

The Partnership Project Agreement includes obligations on Market Representation Partners to identify market and service requirement of 3GPP and to contribute to:

- **the promotion of 3GPP**
- **the definition of 3GPP System and Service scenarios**

The Market Representation Partners should also encourage their members to contribute to the common objectives of 3GPP and to avoid duplication of work.

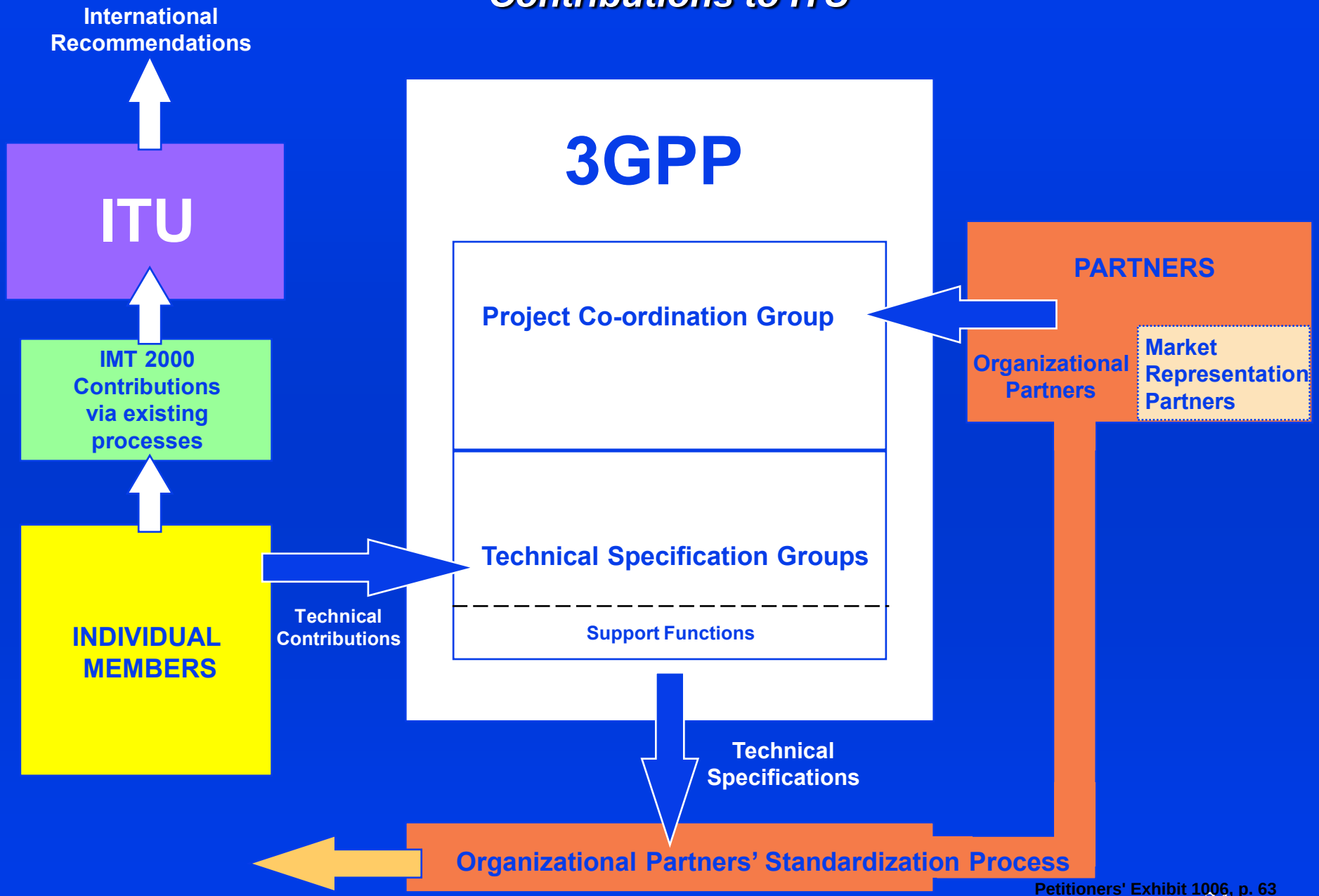
Petitioners' Exhibit 1006, p. 61
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Ownership of the Partnership Project results

The Organizational Partners of 3GPP will have joint ownership (including copyright) of the Technical Specifications.

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Contributions to ITU



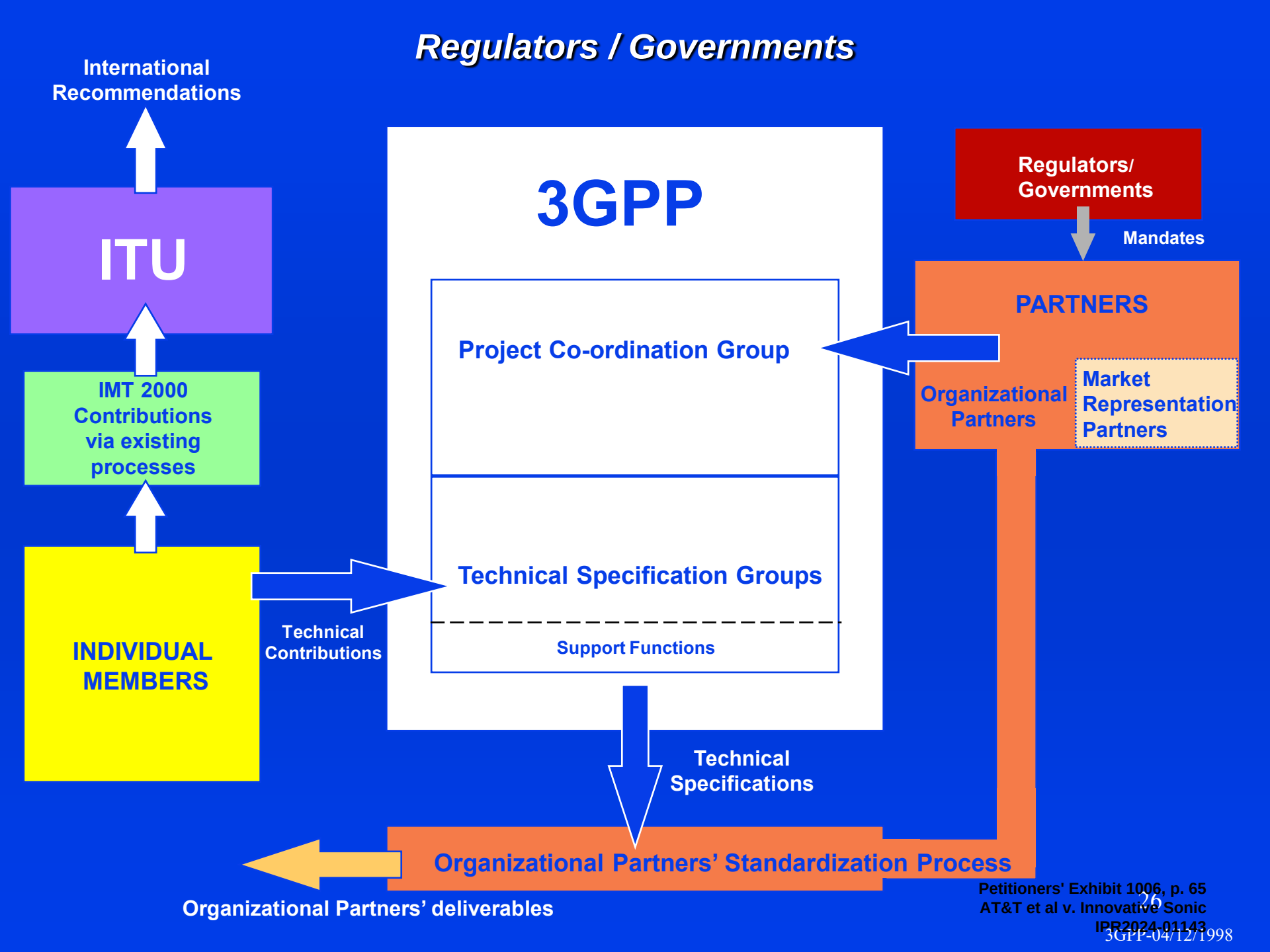
Petitioners' Exhibit 1006, p. 63
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Submission of 3GPP results to ITU

3GPP will not contribute directly to the ITU.

Formal contributions to ITU Study Groups are made by ITU members following existing national/regional processes.

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National / regional regulatory requirements

Variations imposed by national / regional regulatory requirements will be included in the Technical Specifications as defined by the Technical Specification Groups.

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Resource requirements for establishing 3GPP

ETSI will absorb the initial cost of establishing the 3GPP, if required.

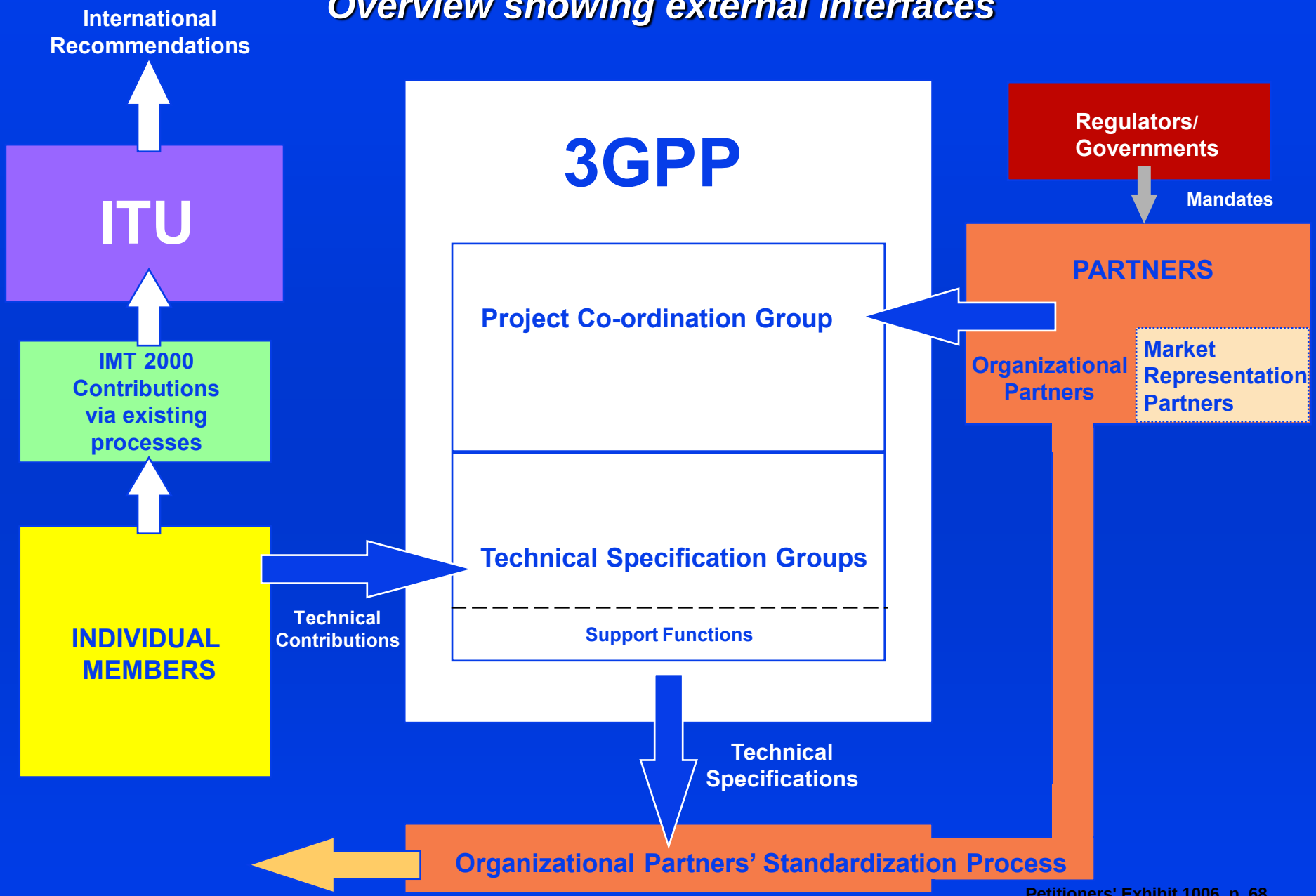
Thereafter, the costs will be shared by the Organizational Partners. There will be no direct 3GPP membership fee for Individual Members.

Partners and Individual Members may provide support functions to the extent that they are able (eg hosting of meetings and provision of Secretariat support).

The longer term financial requirements are for further study.

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Overview showing external interfaces



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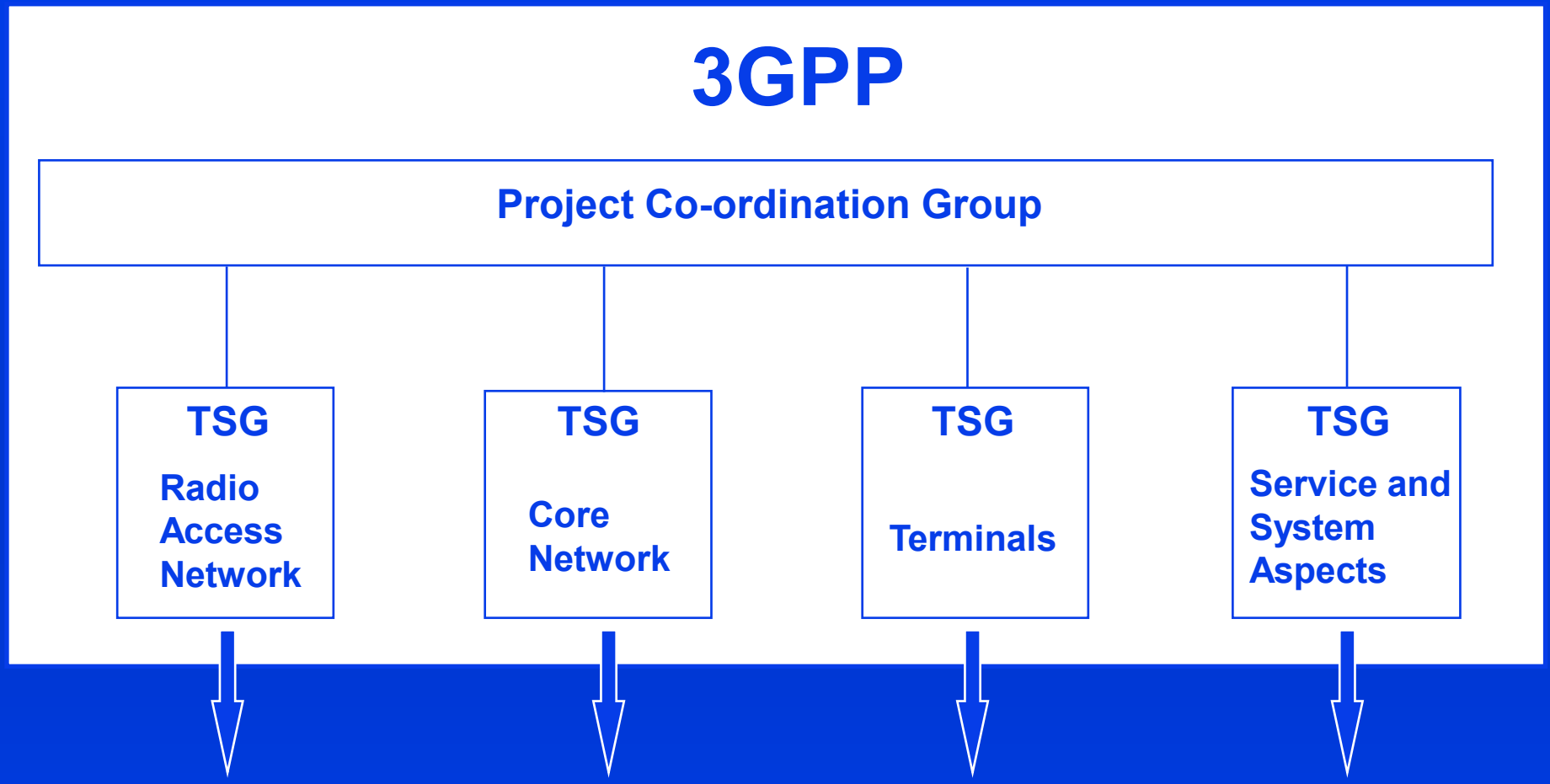
Internal structure of 3GPP (1)

3GPP consists of a Project Co-ordination Group (PCG) and Technical Specification Groups (TSGs).

To assist in the co-ordination of the technical activities, the TSGs are encouraged to meet at the same time and place, as and when appropriate (e.g. twice per year).

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Internal structure of 3GPP (2)



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Work areas to be covered by the Radio Access Network TSG

- Radio Layer 1 specification
- Radio Layer 2 specification
- Radio Layer 3 RR specification
- Iub specification
- Iur Interface
- Iu Interface
- UTRAN O&M requirements
- Base station radio performance specification
- Conformance test specification for testing of radio aspects of base stations
- Specifications for radio performance aspects from the system point of view

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Work areas to be covered by the Core Network TSG

- **Mobility management, call connection control signalling between the user equipment and the core network**
- **Core network signalling between the core network nodes. the signalling supports functionality such as user location information, subscription information and control of network services**
- **Definition of interworking functions between the core network and external networks**
- **Packet related questions such as mapping of QoS (e.g. transparency for IP domain applications, general for bearer types, special for optimized applications such as Voice over IP)**
- **Core network aspects of the Iu interface**
- **Core network O&M requiremnents**

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Work areas to be covered by the Terminal TSG

- **Service capability protocols**
- **Messaging**
- **Services end-to-end interworking**
- **USIM to Mobile Terminal interface**
- **Model/framework for terminal interfaces and services (application) execution**
- **Conformance test specifications of terminals, including radio aspects**

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Work areas to be covered by the Service and System Aspects TSG

- **Service capabilities**
  - **Definition of services and feature requirements**
  - **Development of service capabilities and a service architecture for cellular, fixed (and cordless) applications**

- **Stage one and two descriptions for:**
  - **Charging and accounting**
  - **Network Management**
  - **Security Aspects**

- **Architecture**
  - **Definition, evolution, and maintenance of overall architecture, including assignment of functions to particular sub-systems and identification of key information flows**
  - **In co-operation with other TSGs, define required services, service capabilities and bearer capabilities offered by the different sub-systems**

- **Codec aspects**
  - **Principles for definition of end-to-end transmission**
  - **Definition, evolution and maintenance of relevant specifications**

- **Project co-ordination**
  - **High level co-ordination of the work performed in other TSGs and monitoring of progress**

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Primary responsibilities of PCG and TSGs (1)

The primary responsibilities of PCG, TSGs and Organizational Partners are given in the following tables:

	Function	Org Partners collectively	PCG	TSGs
1	Approval of new Partners for 3GPP	X		
2	Approval of Organizational Partner funding requirements and contributions	X		
3	Allocation of human and financial resources provided by Partners to PCG	X		
4	Allocation of resources to TSGs		X	
5	Allocation of resources within TSGs			X

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Primary responsibilities of PCG and TSGs (2)

	Function	Org Partners collectively	PCG	TSGs
6	Allocation of voluntary human and financial resources by Market Representation Partners and Individual Members		X	X
7	Handling of appeals from Individual Members on procedural matters	2nd step	1st step	
8	Handling of appeals from Individual Members on technical matters		2nd step	1st step
9	Determine overall time frame and manage overall work progress		X	

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Primary responsibilities of PCG and TSGs (3)

	Function	Org Partner collectively	PCG	TSGs
10	Detailed time frame and manage detailed work progress			X
11	Approval of Technical Specifications			X
12	Proposal and approval of work items within the agreed scope and terms of reference			X
13	Final adoption of work items within the agreed scope and terms of reference		X	
14	Management of work items			X

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Primary responsibilities of PCG and TSGs (4)

	Function	Org Partners collectively	PCG	TSGs
15	Technical Co-ordination (System Aspects TSG will play a role here)			X
16	Appointment of Org Partners meeting Chairman (provided by host on a rotational basis)	X		
17	Appointment of PCG Chairman (for one year term)		X	
18	Election of TSG Chairman and Vice Chairmen			X
19	Creation of TSGs and approval of their terms of reference	X		

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Primary responsibilities of PCG and TSGs (5)

	Function	Org Partners collectively	PCG	TSGs
20	Creation of TSG working groups and approval of their terms of reference			X
21	Election of TSG Working Group Chairmen and Vice Chairmen			X
22	Confirmation of individual member participation rights	X		
23	Approval of 3GPP scope and terms of reference	X		
24	Maintain Partnership Project Agreement, Project Description and Working Procedures (consensus agreement by all Partners)	X		

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Participation rights in PCG and TSGs

The following have a right to participate in the PCG:

- **Representatives of participating Organizational Partners**
- **Representatives of participating Market Representation Partners**
- **Chairman and Vice Chairmen of the TSGs, as ex-officio members**

The following have a right to participate in the TSGs :

- **Representatives of members of participating Organizational Partners (i.e. Individual Members)**
- **Representatives of participating Organizational and Market Representation Partners**

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Principles for decision making within 3GPP

Decision making within PCGs

- **By consensus amongst the Organizational Partners**
- **By vote amongst the Organizational Partners in unavoidable cases**

Decision making within TSGs

- **By consensus amongst the Individual Members**
- **By vote amongst the Individual Members in unavoidable cases**

The Organizational Partners will conduct a fairness review of the decision making process six months after 3GPP start-up, taking into account all concerns raised

(Note: voting will not be permitted on National/Regional regulatory requirements)

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Principles for voting within TSGs

The following principles will be applied for voting within the TSGs

- **One "Individual company Member", one vote**
- **Organizational Partners to interpret " Individual company Member" according to its own rules of membership**
- **The PCG will maintain a register of eligible voters for the TSGs**
- **Each Individual Member may carry the proxy for up to five other Individual Members**

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Working language for 3GPP

The working language for 3GPP shall be English

- **Meetings of the PCG and TSGs shall be conducted in English**
- **3GPP Technical Specifications shall be prepared in English**

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Relationship with other groups

3GPP will establish and maintain good relationships with groups working on standards for other IMT-2000 family members.

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Intellectual Property Rights (IPR) Principles (1)

The Individual Members of 3GPP are bound by the IPR Policies of their respective Organizational Partner.

Individual Members are encouraged to declare at the earliest opportunity, any IPRs which they may have and believe to be essential, or potentially essential, to any work ongoing within 3GPP.

After comparing their respective IPR policies, ARIB, ETSI, T1, TTA and TTC have agreed that their IPR policies share common principles are quite similar and have agreed on the following additional principles to maximize the success of 3GPP.

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Intellectual Property Rights (IPR) Principles (2)

(i) **To encourage their respective members' declaration of willingness to grant licences on fair, reasonable terms and conditions on a non-discriminatory basis, and consistent with the respective Organizational Partners' IPR policies.**

(ii) **To encourage their respective members who may have IPR which they believe to be essential, or potentially essential, and are unwilling to license such IPR, that early indication of such unwillingness be provided to their respective Organizational Partners.**

(iii) **To understand that essential IPRs mean essential IPRs relative to any or all parts of the content of the 3GPP technical specifications.**

(iv) **A mechanism for exchanging information associated with the patent statement among the Organizational Partners will be introduced so that such information may be used when adopting relevant standards in each Partner Organization.**

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APPENDIX 3

Introducing 3GPP



The 3rd Generation Partnership Project (3GPP) unites seven telecommunications standard development organizations (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC), known as “Organizational Partners” providing their members with a stable environment to produce the Reports and Specifications that define 3GPP technologies.

3GPP specifications cover cellular telecommunications technologies, including radio access, core network and service capabilities, which provide a complete system description for mobile telecommunications. The 3GPP specifications also provide hooks for non-radio access to the core network, and for interworking with non-3GPP networks

The Project’s Scope

The original scope of 3GPP (1998) was to produce Technical Specifications and Technical Reports for a 3G Mobile System based on evolved GSM core networks and the radio access technologies that they support (i.e., Universal Terrestrial Radio Access (UTRA) both Frequency Division Duplex (FDD) and Time Division Duplex (TDD) modes).

The scope was subsequently amended to include the maintenance and development of the Technical Specifications and Technical Reports for evolved 3GPP technologies, beyond 3G.

- The latest 3rd Generation Partnership Project Agreement (Annex 42).
- The discussions that led to the signing of the 3GPP Project Agreement were recorded in a series of slides called the “Partnership Project Description” that describes the basic principles and ideas on which the project is based. The document has not been maintained since its first creation, but the principles within do still remain valid.

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Organizing the work

The 3GPP Working Procedures are the rule book of 3GPP, with sections covering:

- Description, Purpose, Scope and objectives
- Participation
- Structure
- Partners' collective responsibilities
- Project Coordination Group (PCG)
- Technical Specification Groups (Incl. Elections)
- Work Programme & technical co-ordination
- Deliverables (Technical Specifications and Technical Reports)
- Reporting

The 3GPP production of specifications and studies (TRs) are contribution-driven, by member companies, in Working Groups and at the Technical Specification Group (TSG) level. The Technical Specification Groups in 3GPP are:

- Radio Access Networks (RAN)
- Services & Systems Aspects (SA)
- Core Network & Terminals (CT)

The Working Groups, within the TSGs, meet regularly and come together for their quarterly TSG Plenary meeting, where their work is presented for information, discussion and approval. The last meeting of the week of TSG Plenary meetings is TSG SA, which also has responsibility for the overall coordination of the technical work and for the monitoring of its progress.

Generational Approach

The 3GPP technologies from these groups are constantly evolving through Generations of commercial cellular / mobile systems (see table below). With LTE and 5G work, 3GPP has become the focal point for the vast majority of mobile systems beyond 3G.

Although these Generations have become an adequate descriptor for the type of network under discussion, real progress on 3GPP standards is measured by the milestones achieved in particular Releases. New features

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are 'functionality frozen' and are ready for implementation when a Release is completed. 3GPP works on a number of Releases in parallel, starting future work well in advance of the completion of the current Release. Although this adds some complexity to the work of the groups, such a way of working ensures that progress is continuous & stable.

Backward Compatibility

The major focus for all 3GPP Releases is to make the system backwards and forwards compatible where possible, to ensure that the operation of user equipment is uninterrupted.

For 5G, many operators are starting with dual connectivity between LTE and 5G NR equipment – using the 'Non-Standalone' work completed early in Release 15. In the process of completing the early drop of 5G NR care has been taken to build 'forward compatibility' into Non-Standalone NR equipment, to ensure that it will be fit for use on Standalone 5G NR systems.

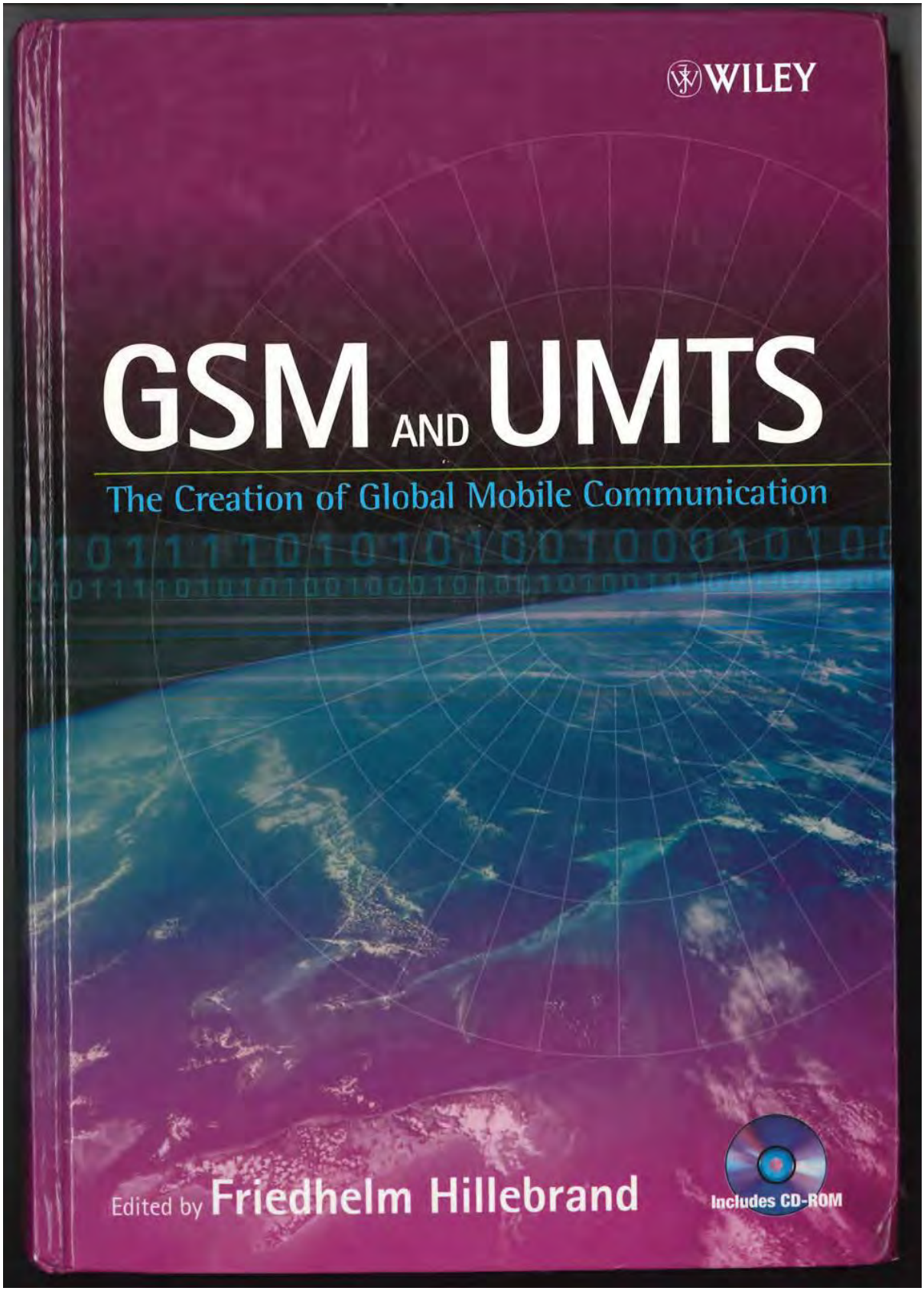
For details of the contents of each Release, see the appropriate 'Release Description' document or go to our dedicated Release page.

Details of all 3GPP Work Items are in the 3GPP Work Plan, which provides details of the cooperation between all of the 3GPP groups on "Features", defined as 'new or substantially enhanced functionality which represents added value to the existing 3GPP system'.

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APPENDIX 4



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GSM and UMTS

The Creation of Global Mobile Communication

Edited by

Friedhelm Hillebrand
Consulting Engineer, Germany

With contributions from 37 key players involved in the work for GSM and UMTS



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Baffins Lane, Chichester,
West Sussex, PO19 1UD, England
National 01243 779777
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e-mail (for orders and customer service enquiries): cs-books@wiley.co.uk
Visit our Home Page on http://www.wiley.co.uk or http://www.wiley.com

Reprinted January 2002.

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John Wiley & Sons (Asia) Pte Ltd, 2 Clementi Loop #02-01,
Jin Xing Distripark, Singapore 129809

Library of Congress Cataloging-in-Publication Data

GSM and UMTS : the creation of global mobile communications / [edited by] Friedhelm Hillebrand.
p. cm.
Includes bibliographical references and index.
ISBN 0-470-84322-5
1. Global system for mobile communications. I. Hillebrand, Friedhelm.
TK5103.483 .G7496 2001
384.5'35–dc21

2001045565

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN 0470 84322 5

Typeset in Times by Deerpark Publishing Services Ltd, Shannon, Ireland.
Printed and bound in Great Britain by T. J. International Ltd, Padstow, Cornwall.

This book is printed on acid-free paper responsibly manufactured from sustainable forestry, in which at least two trees are planted for each one used for paper production.

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Chapter 9: The Third Generation Partnership Project (3GPP)

Section 1: The Creation of 3GPP

Karl Heinz Rosenbrock[1]

Having read the title, it should not surprise you that this section deals with the creation of the Partnership Project for the standardisation of a Third Generation Mobile Communications System (3GPP).

Why, you may ask, in a history book about the GSM and UMTS development, do I want to talk about the establishment of a partnership project? Isn't it the most natural thing to do? This is, of course, a stance an insider can take today – after nearly 30 months of 3GPP's creation and the smooth and successful running of this project.

As this section will eventually show, it took quite some time, filled with tough and even passionate discussions, before the goal was achieved. Approaching this idea from a rather philosophical point of view, one should not be too surprised about the big efforts needed, because already the old Greek ancestors knew that "prior to being successful the Gods will demand some sweat"...[2]

This section starts with some general considerations leading the European Telecommunications Standards Institute (ETSI) membership towards a global approach in standardisation and then deals with the establishment of an ad hoc group of the ETSI Board (UGG = UMTS Globalisation Group) to address the matter of global standardisation in this context and the related meetings and discussions. Afterwards, the 3GPP will be described in a rather general manner, highlighting how it works, who the stakeholders are and dealing with the results achieved so far. The section is rounded up with the relationship towards the International Telecommunication Union (ITU) and other initiatives as well as a few concluding remarks.

9.1.1 First Approaches to Globalisation

The re-engineering process ETSI, the "Excellent" Telecommunications Standards Institute in Europe, undertook in the years 1995/1996 – only 7 years after its creation – resulted in among others a kind of mission statement for the Institute: "Making international standards happen first in Europe".

[1] The views expressed in this section are those of the author and do not necessarily reflect the views of his affiliation.

[2] One of my cruel translations of a German idiom "Vor den Erfolg haben die Götter den Schweiß gesetzt"...

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- unanimously requested the ETSI Board (through its UMTS Globalisation Group) to complete the negotiations with potential partners and to oversee the creation of the Partnership Project;
- unanimously requested the ETSI Board to agree and maintain on behalf of ETSI the final versions of the Partnership Project Description, the Partnership Project Working Procedures, and the Partnership Project Agreement;
- unanimously authorised the director-general to sign the Partnership Project Agreement.

9.1.2.4.14 Happy End in Copenhagen

It was in Copenhagen where the last 3GPP preparatory meeting with all six OPs took place on 2–4 December 1998.

Here, the final fine-tuning of the 3GPP documentation was achieved. In addition, the 3GPP agreement[8] was signed (in a nice framework provided by the host, TeleDenmark) by the following OPs: ARIB, ETSI, T1, TTA, and TTC.

Unfortunately, the partners from CWTS (China) were not authorised to sign the 3GPP agreement yet. Furthermore, owing to the fact that the UMTS Forum was unable to participate in Copenhagen, they were prevented from co-signing the 3GPP agreement as a first Market Representative Partner (MRP).

During that Copenhagen meeting, another discussion ensued about the role the MRPs should play. Finally, it was concluded that the high competence of MRPs should be used in order to identify market requirements, thus enabling 3GPP standardisation to meet the needs of the market. An MRP is an organisation invited by the OPs to participate in 3GPP with the objective of offering market advice to 3GPP and to bring into 3GPP a consensus view of market requirements.

9.1.3 What is 3GPP?

The 3GPP is a global standardisation initiative created in December 1998. Its task was to develop a complete set of globally applicable Technical Specifications for a third generation (3G) mobile telecommunications system based on the evolved GSM core network and an innovative radio interface known as UTRA. The Project is based on a concept devised by ETSI aimed at facilitating better co-operation between regional standards organisations, fora and other industry groupings. 3GPP is a collaborative activity between officially recognised SDOs, with the participation of other industry groups and individual members.

Partnership in 3GPP is open to all national, regional or other SDOs, irrespective of their geographical location – within the project the participating SDOs are referred to as OPs. The OPs may invite MRPs to participate: these may be any organisation from anywhere in the world that can offer market advice to 3GPP and bring a consensus view of market requirements that fall within the project's scope. Individual membership is open to companies and organisations within the communications industry that are active members of one of the OPs. The truly global nature and the breadth of the market interest in the task of specifying this 3G system is evident from the identity of the 3GPP partners (see further in sub-paragraph 9.1.3.2) and all agree that 3GPP is proving a highly successful initiative.

[8] The 3GPP Agreement and the 3GPP Project Description can be found on the attached CD-ROM in [illegible]

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The 3GPP has no legal status. Ownership (including copyright) of the specifications and reports it produces is shared between the partners. The 3GPP process includes a conversion (transposition) of the project's output into official standards and reports by one or more of the OPs.

The specifications being prepared by 3GPP are evolved in part from the enormously successful GSM standard, which is currently (February 2001) serving over 400 million subscribers in more than 140 countries. Building on this massive installed base, the system being specified by 3GPP will be an attractive upgrade path for existing operators and users. It also has an assured compatibility with GSM – good news for both operators and users who are unable, or unwilling, to upgrade to 3G.

Paramount among the 3GPP specifications is the definition of UTRA, the innovative radio access technology that is the key to the new system's high data rates and dramatically improved performance. UTRA is spectrum-efficient and supports FDD and TDD modes. This interface has been accepted by ITU as a member of the IMT-2000 family – or more correctly, as *two* family members: IMT-DS, the FDD mode; and IMT-TC, the TDD mode. IMT-2000 family membership requires the ability for users to roam globally and seamlessly, which implies interoperability with other family members: 3GPP thus co-operates closely with the 3GPP2 project which is specifying another family member, a 3G CDMA system based on an evolution of the ANSI-41 architecture.

9.1.3.1 How Does 3GPP Work?

3GPP has been designed to minimise delays and inefficiencies. As a result, it has a "flat" organisational structure and a large degree of distributed autonomy. Overall project planning and co-ordination is the responsibility of the PCG, with input primarily from the OPs, guided by the MRPs. It is mainly at this level that regulatory requirements, provided by the telecommunications administrations and governments around the world, are taken into account.

The development of the specifications is performed by TSGs and their subordinate working groups. Here, the main participation is by technical experts from the individual members of the OPs. Individual members in their capacity as ITU members are also responsible for carrying the results of the 3GPP work to the ITU.

At the time of the creation, 3GPP had structured around four principal aspects of the 3G system being defined as TSGs:

- TSG CN: core network
- TSG RAN: radio access network
- TSG SA: services and systems aspects
- TSG T: terminals

Each TSG is authorised to develop and approve specifications and reports within its scope, and TSG SA also has a role of co-ordinating the work of the TSGs at a more detailed level than the PCG. The result is a process that is able to rapidly produce and approve specifications and reports in response to the needs of the market, although it is important to note that the deliverables do not have a formal status until they have been transposed by one or more of the OPs.

The formal status is necessary for regulatory and other purposes in the various regions, and all the OPs have committed themselves to complete this process rapidly. Each OP will apply

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its own procedures, appropriate to their respective regions. As the official European SDO within 3GPP, ETSI recognises the 3GPP output as ETSI Technical Specifications and ETSI Technical Reports without a need for any further endorsement within the Institute. This means that the 3GPP documents are published – within a matter of a few weeks – as identical text directly as ETSI deliverables. In addition, ETSI is transposing, i.e. adapting, a few of the initial 3GPP specifications into ENs for specific European regulatory requirements. This is happening in parallel with the publication of the initial Technical Specifications and will not impede the implementation of 3G in Europe.

9.1.3.1.1 Electronic Working

3GPP has taken a leading role in changing the traditional ways of standards making. A very heavy dependence is now placed on electronic working, both outside and within meetings, advancing a trend that started in ETSI a year or two ago. This means that paper copies of draft documents have been almost entirely eliminated, saving time and expense, and making a significant contribution to the environment.

Given that 3GPP has participants from all over the world, the use of the Internet, e-mail exploders and other such facilities have proved invaluable for distributing and sharing information, working drafts and so on. Delegates to meetings had already become used to downloading working documents from the Internet and having updates to the documents distributed in meetings on CD-ROM. But in recent months, in meetings around the world participants have experienced the benefits of a local area network (LAN) solution as the latest step in improving working methods. ETSI's headquarters premises already have LANs in all its meeting rooms, but most other venues currently rely on temporary LANs (wired or radio) using equipment and support kindly donated by individual members.

Such facilities permit delegates to access all the meeting documents electronically from their laptop computers. As a result, the huge burden of producing paper copies (as many as 10 000 pages per delegate for some meetings) can be eliminated. Delegates can access new documents as soon as they are available, rather than having to wait for paper copies to be made or for the documents to be distributed by other means, such as diskette or CD-ROM.

9.1.3.1.2 Project Support

For administrative and support purposes the 3GPP Partners have established a Mobile Competence Centre (MCC) which is hosted by ETSI at its premises in Sophia Antipolis, Southern France. The MCC was created in March 1999 to provide support not only to the 3GPP but also to ETSI's own studies in mobile technologies. A full description of MCC including the financing is given in Chapter 15, Section 3.

9.1.3.2 Who are the Stakeholders in 3GPP?

3GPP has attracted a very strong commitment from organisations and companies around the world, reflecting the truly global nature of the project. There are currently six OPs (in alphabetical order):

- The Association of Radio Industries and Businesses (ARIB), Japan

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being TD-SCDMA, proposed by CWTS. A similar group, 3GPP2, is preparing the cdma2000 specifications, UWC-136 TDMA specifications are being developed principally by UWCC, and DECT specifications are defined by a set of ETSI standards (Figure 9.1.1).

Since the UWCC and ETSI are both partners in 3GPP (as an MRP and OP respectively), there is direct liaison between the Project and these two sources of specifications for other IMT-2000 family members.

When 3GPP and 3GPP2 were created it was felt that the interests of each group were sufficiently different to require them to remain separate but here again many of the OPs and MRPs are common to both groups, so there are natural channels for information exchange. Particular instances of formal co-operation between the groups were the two joint 3GPP-3GPP2 workshops held in 1999 to address the "Hooks and Extensions" issue aimed at ensuring interworking between the respective technologies.

In addition to all this, the 3GPP TSGs and their working groups are encouraged to liase directly with relevant technical bodies within the Project as well as among the Partners.

9.1.6 Conclusions

The attentive reader, and let's assume that you are one, may still be astonished to learn what big efforts have been necessary in order to establish 3GPP.

In the meantime, i.e. in the course of year 2000 nearly the whole work of the former ETSI TC SMG has been incorporated into 3GPP, to a large extent within the new TSG GERAN.

Well, our Japanese friends were not happy about this shift because they feared that it could result in delays in the 3G introduction in their country. They accepted this because a separate TSG for the GSM work was created.

Trying to recall the heated discussions within ETSI about the scope of 3GPP from 1998, one has to admit that such a move would have been violently rejected by a lot of ETSI members, maybe even by the majority. Using a philosophic approach, one can, of course, state that time helps healing (even wounds).

Today, i.e. February 2001, we can conclude from ETSI's point of view that all standardisation work related to further evolution of the second generation mobile system, i.e. GSM, and to UMTS is being done well within 3GPP. Thus, the objective to avoid parallel work within ETSI TBs and 3GPP has been fully achieved.

The ability of organisations and individuals around the world to co-operate and make available a full set of stable, agreed 3GPP specifications in 1 year is a remarkable achievement, one that is unprecedented in the world of standardisation. 3GPP meetings have taken place in many parts of the world, emphasising the strong commitment of the SDOs from China, Europe, Japan, Korea and the US. The MRPs have also lent very strong support to the work. Thanks to this widespread and determined commitment it has been possible to meet the very aggressive targets for 3G.

But Release 99 was only the first step – the workload has continued to intensify this year, as the initial specifications are refined and many new ones added, opening the path to full, seamless, global 3G services, changing forever the way that people communicate.

In the meantime, 3GPP has changed the designation of the releases and dropped to mention the year in order to avoid irritations and wrong expectations. Release 99 was first established in December 1999 and got its maturity in the course of year 2000. In 2000, more than 5700 change requests were implemented. The next big event will be Release #4 as a result of the

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series of TSG meetings scheduled for March 2001 in Palm Springs, US. This will obviously result in a further stabilisation and extension of the UMTS specifications.

3GPP is running very well. The individual members from the six OPs seem to be very satisfied with this arrangement – and the production line is in full swing.

Without exaggeration, one can give 3GPP the attribute of a success story. One may quote again here Mr Ed Roney who even addressed the 3GPP concept – prior to its realisation – as a "paradigm shift".

As the results of the GSM and UMTS related standardisation work represent a great part of ETSI's deliverables, it might be justified to note here that during the year 2000, ETSI published more than seven new deliverables each working day (Monday through Friday), i.e. one deliverable per hour!

Further information may be found on the 3GPP website at http://www.3gpp.org.

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Chapter 9: The Third Generation Partnership Project (3GPP)

Section 2: UMTS in 3GPP (December 1998–May 2001)

Niels Peter Skov Andersen[1]

9.2.1 A Change of Environment

In the period 1982 until end of 1998 the work on the GSM standard, and in the later part of the period on UMTS, had been performed in the same environment, starting under CEPT and later transferred into ETSI. The Technical Committee GSM, during this period renamed to SMG, and its working groups (Sub Technical Committees) had continuously existed and evolved. The same was the case for the working methods and procedures used within the work. Over time with the success of the GSM system more and more interested parties became involved in the work including parties from outside the original CEPT area. However, this was all a relatively slow evolution and no major revolutions in the organisation or the working methods occurred in this period.

After all these years of continuity in the work the discussions around the creation of 3GPP and the decision to establish 3GPP for the initial phase of UMTS[2] naturally created some uncertainty amongst the members of SMG. Especially the resulting split of the GSM standardisation, with the responsibility for the GSM core network transferred to 3GPP, but the responsibility for the GSM radio access Network maintenance remained in ETSI in SMG. This caused some concern amongst many delegates. Also the internal structure for the technical work within 3GPP was different from the well-known structure in SMG. SMG was based on a technical plenary with a number of working groups (SMG1, SMG2, ..., SMG12) performing the detailed technical work. The SMG plenary was the approving authority for the results of the work performed by the working groups. Also the plenary was the group responsible for approval of all new work items and the content of the releases. The structure for the work in 3GPP, as agreed by the partners, was quite different. The project

[1] The views expressed in this section are those of the author and do not necessarily reflect the views of his affiliation [illegible].

[2] The term UMTS is throughout this section used to keep consistency of terminology with the other chapters and sections. The term UMTS do not appear in the in 3GPP agreement, which defines the system as a third generation mobile system based on an evolved GSM core network and UTRAN (including UTRAN (FDD and TDD modes)).

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was organised with four equal Technical Specification Groups (TSGs), who had complete autonomy for their area of responsibility, i.e. they were responsible for approval of new work items and final approval of deliverables. The four technical groups originally defined were:

TSG CN	Responsible for the core network development
TSG-RAN	Responsible for the radio access network based on UTRAN (FDD and TDD modes)
TSG-SA	Responsible for services and system aspects
TST-T	Responsible for Terminal and UIM

In addition to the technical groups the 3GPP organisation has a Project Coordination Group (PCG). However, the role of this PCG cannot be compared to the role the SMG plenary played. The SMG plenary was an open technical group with the approving authority in all technical questions including approval of new work items. The 3GPP PCG is a closed group with a defined membership consisting of a limited number representative of each of the partners (SDOs, MRPs) and the leadership (chairman and two vice-chairmen) of each TSG. Thus as a closed group the role of the PCG becomes more like a board overlooking the overall well being of the project.

This structure made many long-term SMG delegates concerned about how the overall coordination of the project could be ensured. This new structure was not introduced to overcome known deficits of the SMG organisation, but in my opinion, by political considerations to ensure than no single individual, individual member, organisational partner could obtain a controlling position in the project.

9.2.2 The First Two TSG Meetings

The inauguration meeting of the 3GPP TSGs was held in December 1998 in Sophia Antipolis, France. In the process of creation of 3GPP this was the first time that the 3GPPs real work force – the technical experts – met. The main objectives for this first meeting was to get the work started. One of the elements of the meeting was a presentation from the different partners on the status of their work on the third generation mobile system, the work which they now were in the process of handing over to 3GPP.

Listening to the presentations and the discussions during the breaks it was very obvious that the background for standardization amongst the delegates was quite different. As an example, I remember that during the coffee break just after I, as chairman of ETSI SMG2, had presented the status of the UMTS radio work in ETSI, and had ended my presentation by stating that the UMTS radio work would only be on the agenda of one more meeting of ETSI SMG2. This was in order to complete the documentation to be handed over to 3GPP and then the work on UMTS radio in ETSI would cease, a small group of non-ETSI delegates came to me and asked "if all work on UMTS radio in ETSI ceases, how do the Europeans then coordinate their views on 3GPP?" Coming from the ETSI SMG background this was a completely unexpected question, as the working procedures for 3GPP were very similar to those of ETSI, it was clear to me that the contributions to 3GPP in general should come from the individual members – the companies, regulators etc. – in their own name and not as regional contributions. I explained this, but I also understood that for delegates with a background in international standardization from, e.g. ITU this was the normal way of thinking. During the

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Annex 2: Organisation Evolution of the Technical Groups

Section 3: 3GPP

Adrian Scrase[1]

A2.3.1 December 1998 to Mid-1999

During the preparatory talks that led to the creation of 3GPP, many discussions took place to find the optimum organizational structure. The ETSI TC SMG model had worked well for many years and it was very tempting to adopt a similar structure and just widen the sphere of participation. However, some voices called for a more radical approach in order to streamline the structure and to reduce the time taken for specifications production. As a result of these discussions, the following key principles were established on which 3GPP was structured:

- Minimum number of hierarchical levels;
- Large degree of distributed autonomy;
- Clear separation of technical activities from political and administrative activities.

When 3GPP was created, four Technical Specification Groups (TSGs) were formed to undertake the preparation of technical specifications. The four TSGs were as follows:

- TSG CN – core network
- TSG RAN – radio access network
- TSG SA – services and system aspects
- TSG T – terminals

Each of the TSGs was authorized to develop and approve specifications and reports within its terms of reference. This represented a departure from the more traditional approach where a single entity (i.e. a plenary) within a project has the authority to approve a project's output. It was believed that by distributing the approval authority, the time taken to produce specifications would be reduced since this effectively removes one level of hierarchy from the approval procedure. However, it was apparent from the outset that distributing the approval of specifications would lead to a greater requirement for technical co-ordination and thus TSG SA was tasked to perform a co-ordination role across all TSGs. This co-ordination role

[1] The views expressed in this section are those of the author and do not necessarily reflect the views of his affiliation entity.

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APPENDIX 5

Third Generation Partnership Project

3GPP

Working Procedures

17 July 2000

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Foreword

These Working Procedures of the Third Generation Partnership Project (3GPP) are effective from 17 July 2000.

An electronic version of these Partnership Project Working Procedures is available from the following address:

http://www.3gpp.org

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SECTION A: GENERAL

Article 1: Description

The Partnership Project is not a legal entity but is a collaborative activity between the following recognized Standards Development Organizations:

ARIB (Japan)

CWTS (China)

ETSI (Europe)

T1 (US)

TTA (Korea)

TTC (Japan)

The Partnership Project is entitled the "THIRD GENERATION PARTNERSHIP PROJECT" and may be known by the acronym "3GPP".

Article 2: Purpose

The purpose of 3GPP is to prepare, approve and maintain globally applicable Technical Specifications and Technical Reports for a 3rd Generation Mobile System based on the evolved GSM core network, and the Universal Terrestrial Radio Access (UTRA), to be transposed by the Organizational Partners into appropriate deliverables (e.g., standards).

Article 3: Scope and objectives

The 3rd Generation Mobile System and its capabilities shall be developed in a phased approach. Initially, 3GPP shall prepare, approve and maintain the necessary set of Technical Specifications and Technical Reports for a 3rd Generation Mobile System including:

?? UTRAN (including UTRA; in Frequency Division Duplex (FDD) and Time Division Duplex (TDD) modes);

?? 3GPP Core Network (Third Generation networking capabilities evolved from GSM. These capabilities include mobility management, global roaming, and utilisation of relevant Internet Protocols);

?? Terminals for access to the above (including specifications for a UIM); and

?? System and service aspects.

3Gpp shall prepare, approve and maintain the necessary set of Technical Specifications and Technical Reports for:

- the Global System for Mobile communication (GSM) including GSM evolved radio access technologies (e.g. General Packet Radio Service (GPRS) and Enhanced Data rates for GSM Evolution (EDGE)).

3GPP shall consider the long term evolution.

The Technical Specifications and Technical Reports shall be developed in view of global roaming and circulation of terminals.

The set of 3GPP Technical Specifications and Technical Reports for the 3GPP core network and the specifications for the GSM core network should be common to the greatest extent possible and should not be unnecessarily different.

The results of the 3GPP work shall form the basis of member contributions to the ITU in accordance with existing procedures.

3GPP shall take account of emerging ITU recommendations on interworking between IMT-2000 family members.

In the framework of agreed relationships, the 3GPP Technical Specifications and Technical Reports will form the basis of standards, or parts of standards, of the Organizational Partners.

SECTION B: PARTICIPATION

Article 4: Categories

Participation in 3GPP shall be classified into one of the following categories:

?? Partners;

?? Individual Members.

?? Observers and Guests

Article 5: Partnership

Partners in 3GPP shall be classified into one of the following two categories:

?? Organizational Partners;

?? Market Representation Partners.

Article 6: Organizational Partnership

Organizational Partnership is open to any Standards Organization, irrespective of its geographical location, which has:

?? a national, regional or other officially recognized status and the capability and authority to define, publish and set standards within the 3GPP scope, in that nation or region;

?? an Intellectual Property Rights (IPR) Policy which is compatible with those of the Organizational Partners;

?? committed itself to all or part of the 3GPP scope;

?? signed the Partnership Project Agreement.

Standards Organizations may apply to become an Organizational Partner by writing to any of the existing Organizational Partners.

Article 7: Market Representation Partnership

The Organizational Partners may invite Market Representation Partners to take part in 3GPP.

An invitation for Market Representation Partnership is open to any organization, irrespective of its geographical location, which:

?? has the ability to offer market advice to 3GPP and to bring into 3GPP a consensus view of market requirements (e.g. services, features and functionality) falling within the 3GPP scope;

?? does not have the capability and authority to define, publish and set standards within the 3GPP scope, nationally or regionally;

?? has committed itself to all or part of the 3GPP scope;

?? has signed the Partnership Project Agreement.

Organizations may apply to become Market Representation Partners by writing to any of the existing Partners.

Article 8: Individual Membership

Membership in an Organizational Partner is a pre-requisite for Individual Membership of 3GPP. All entities registered as members of an Organizational Partner and eligible for participation in the technical work of that Organizational Partner, can become Individual Members of 3GPP if they are committed to support 3GPP and:

?? to contribute technically or otherwise to one or more of the Technical Specification Groups within the 3GPP scope;

?? to use the 3GPP results to the extent feasible.

An Individual Member has the right to participate in the work of 3GPP by attending meetings of the Technical Specification Groups and subtending groups.

Applications for Individual Membership of a Technical Specification Group shall be made in writing to the relevant Organizational Partner using the form given at **Annex C**.

Individual Members act in 3GPP in their own right and carry the full responsibility for their contributions.

Article 9: Termination of Individual Membership

Individual Membership of 3GPP may be terminated by dissolution, abolition, resignation or expulsion from the related Organizational Partner.

Article 10: Observership and Guests

The status of Observer may be granted by the Organizational Partners to an entity which has the qualifications to become a future Partner.

An Observer may send a single representative to an Organizational Partners or PCG meeting. An Observer may also have representatives at TSG meetings. Representatives of Observers may participate in discussions, receive and contribute documents but may not take part in decision making or hold any leadership positions.

Additional participation rights of an Observer shall be decided by the Organizational Partners on a case-by-case basis.

The status of Guest may be granted for a limited period, by the Organizational Partners to an entity which has the qualifications to become a future Individual Member. The limited period shall be decided by the Organizational Partners on a case-by-case basis.

A Guest may have representatives at TSG and subtending group meetings. Representatives may participate in discussions, receive and contribute documents but may not take part in decision making or hold any leadership positions.

SECTION C: STRUCTURE

Article 11: Structure of 3GPP

3GPP shall consists of a Project Co-ordination Group (PCG) and Technical Specification Groups (TSGs). The Technical Specification Groups may establish Working Groups if required.

The Organizational Partners may decide to call a meeting of the full 3GPP membership if required.

SECTION D: PARTNERS' COLLECTIVE RESPONSIBILITIES

Article 12: Organizational Partners' Collective Responsibilities

The Organizational Partners shall determine the general policy and strategy of 3GPP.

In addition the Organizational Partners shall perform the following tasks:

?? approval and maintenance of the 3GPP scope;

?? maintenance the Partnership Project Description

?? taking decisions on the creation or cessation of Technical Specification Groups, and approving their scope and terms of reference;

?? approval of Organizational Partner funding requirements;

?? allocation of human and financial resources provided by the Organizational Partners to the Project Co-ordination Group;

?? acting as a body of appeal on procedural matters referred to them.

Article 13: Collective responsibilities of all Partners

Organizational Partners and Market Representation Partners shall perform the following tasks:

?? maintenance of the Partnership Project Agreement

?? approval of applications for 3GPP partnership;

?? taking decisions relating to the dissolution of 3GPP.

SECTION E: PROJECT CO-ORDINATION GROUP (PCG)

Article 14: PCG tasks

The PCG shall perform the following tasks:

?? appointment of PCG Chairman and Vice Chairmen;

?? allocation of human and financial resources provided by Organizational Partners to TSGs;

?? allocation of voluntary human and financial resources provided by Market Representation Partners and Individual Members;

?? management of the 3GPP Support Team;

?? handling of appeals from Individual Members on procedural matters referred to them;

?? propose and approve modifications to the Partnership Project Working Procedures

?? handling of appeals from Individual Members on technical matters referred to them;

?? determination of the overall time frame and manage overall work progress;

?? final adoption of new and stopped work items proposed by the TSGs within the agreed 3GPP scope and objectives;

?? when a work item is outside the scope of the 3GPP, and where a common global solution is desired, recommend how to achieve a global solution;

?? appointment or dismissal of TSG Chairmen and Vice Chairmen, as proposed by TSGs based on election results. (The proposed candidate shall be appointed unless there are extraordinary reasons that prevent such an appointment, e.g., severe company or geographical imbalance within 3GPP. In such cases the TSG shall be requested to elect an alternative candidate. The decision not to appoint a candidate shall be made by consensus.);

?? authorizing requests from the TSGs for approval to liaise with external organizations, and maintain a list of approved requests

?? maintenance of the register of Individual Members eligible to participate in 3GPP;

?? maintenance of the register of IPR declarations relevant to 3GPP, received by the Organizational Partners;

The PCG may decide to call a meeting of the full 3GPP membership if required.

Article 15: PCG participation

The following shall have a right to participate in the PCG:

?? Three representatives of each Organizational Partner;

?? Three representatives of each Market Representation Partner;

?? The Chairmen and Vice Chairmen of the TSGs as ex-officio members.

?? One representative of each Observer

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Article 16: PCG appointment of Chairman and Vice Chairman

The PCG shall appoint their Chairman and Vice Chairmen from amongst the Organizational Partner representatives.

The Chairman and Vice Chairmen shall be appointed for a one year term of office.

The Chairman and Vice Chairmen shall normally serve one term of office. If no other candidates are available, the Chairman or Vice Chairmen may be appointed for a further term.

Successive Chairmen and Vice Chairmen should not be from the same Organizational Partner, the same region or from the same group of companies, unless no other candidate is available.

Article 17: PCG Chairman Responsibilities

The PCG Chairman is responsible for the overall management of the co-ordination work within 3GPP.

The Chairman has the overall responsibility to ensure that the Partnership Project Agreement, Partnership Project Description and Partnership Project Working Procedures are followed.

The Chairman may nominate officials to assist in the work.

The Chairman may be assisted by the Support Team.

The Chairman may delegate tasks to the Vice Chairmen.

In performing his tasks, the Chairman and Vice Chairmen shall maintain strict impartiality and act in the interest of the 3GPP.

Article 18: PCG meetings

A meeting of the PCG shall be held at least twice per year.

At least thirty days before the due date, a calling notice, draft agenda and supporting documents shall be issued.

Article 19: PCG decision making

In any meeting of the PCG, the quorum required for decision making shall be 50% of the total number of Organizational Partners. Proxies shall not be permitted.

The PCG shall endeavour to reach consensus on all issues. The views and opinions of the Market Representation Partners and the Chairmen and Vice Chairmen of the TSGs shall be taken into account during the consensus building process. If consensus cannot be achieved, the Chairman can decide to take a vote. The vote may exceptionally be performed by a secret ballot if decided by the PCG.

Each Organizational Partner shall have one vote. A proposal shall be deemed to be approved if 71% of the votes cast are in favour. Abstentions or failure to submit a vote shall not be included in determining the number of votes cast.

SECTION F: TECHNICAL SPECIFICATION GROUPS

Article 20: TSG tasks

The TSGs shall prepare, approve and maintain the 3GPP Technical Specifications and Technical Reports.

The TSGs shall also perform the following tasks:

?? Propose to the PCG for appointment TSG Chairman and Vice Chairmen based on election results;

?? Creation of TSG Working Groups and approval of their terms of reference;

?? When a new Working Group is created, the appointment of TSG Working Group Convenor ;

?? Allocation of resources within the TSG;

?? Allocation of voluntary human and financial resources provided by Market Representation Partners and Individual Members;

?? Handling of appeals from Individual Members on technical matters;

?? Preparation of a detailed time frame and management of detailed work progress;

?? Management of work items;

?? Technical Co-ordination;

?? Proposal and approval of work items within the agreed scope and terms of reference of the TSG.

?? Where a work item is outside the scope of the 3GPP, but a common global solution is desired, recommend an approach to the PCG;

?? Assignment of work to Partners. (Specification development may be accomplished using various methods, including the assignment of work to Partners.)

?? Maintenance of the list of Individual Members eligible to vote within the TSG (Voting Members).

Article 21: TSG participation

The following shall have a right to participate in the TSGs:

?? Representatives of members of participating Organizational Partners (i.e. Individual Members);

?? Representatives of Organizational Partners

?? Representatives of Market Representation Partners.

?? Representatives of Observers and Guests

Article 22: TSG and WG election of Chairman and Vice Chairman

The TSG Chairman and Vice Chairmen, to be proposed to the PCG for appointment, shall be elected by the Technical Specification Group from amongst the Individual Member representatives. Each TSG shall elect a maximum of two Vice Chairmen.

The Working Group Chairman and Vice Chairmen shall be elected by the Working Group from amongst the Individual Member representatives. Each Working Group shall elect a maximum of two Vice Chairmen.

A candidate for TSG or Working Group election shall provide a letter of support from his Organization and nominations may be made up to the point when an election takes place.

The TSG Chairman and Vice Chairmen shall be appointed by the PCG on the proposal of the TSG.

The Chairman and the Vice Chairmen shall be appointed for a two year term of office. The Chairman and Vice Chairmen may be appointed for one further consecutive term. If no other candidates are available, the Chairman or Vice Chairmen may be appointed for a further term.Regular TSG elections shall be held every two years in the March time frame in odd numbered years.

Should the office of Chairman or Vice Chairman, of a TSG, become vacant for reasons other than expiration of term of office, a special election shall be conducted to fill the unexpired term. This special election shall be conducted at a regularly scheduled meeting of the TSG, and shall be announced in writing, at least 21 days in advance of the meeting.

When a special election is held to fill the office of Chairman, the announcement shall also indicate that there will be an election to fill the position of Vice Chairman in the case where the Vice Chairman may be elected to the office of Chairman. If at the special election the Vice Chairman is elected to the office of Chairman, that individual, to be proposed to the PCG for appointment, shall become Chairman immediately, the position of Vice Chairman shall be assumed vacant, and an election shall be held for the office of Vice Chairman.

A partial term of office does not count towards the two consecutive term limit.

Chairman and Vice Chairmen should not be from the same region, Organizational Partner, or from the same group of companies, unless no other candidate is available.

Successive Chairmen should not be from the same Organizational Partner, the same region or from the same group of companies, unless no other candidate is available. This does not apply to special/regular successive elections.

When a new TSG is established, the Organizational Partners shall appoint a convenor for the first two TSG meetings. The initial special election for TSG Chairman and Vice Chairmen shall take place at the second TSG meeting. The elected Chairman and Vice Chairman shall serve until the next regular TSG election. A partial term of office does not count towards the two consecutive term limit. When a new TSG Working Group is established, the TSG shall appoint a Convenor for the first two Working Group meetings. The initial election for Working Group Chairman and Vice Chairmen shall take place at the second Working Group meeting.

If a TSG or Working Group Chairman or Vice Chairman have a change of company affiliation (job change) during their term of office, a new letter of support shall be provided. The decision for the Chair or Vice Chair to continue in office shall be made by consensus of the affected group. If consensus cannot be achieved, an election shall be held for the office.

At the Working Group level the election is for a two year term. At the TSG level the special election is for the unexpired term. A partial term of office does not count towards the two consecutive term limit. If the incumbent is elected, at the TSG or WG level, it is for the unexpired term and that term does count toward the term limit. If the change of affiliation is that of the Chair, he shall select a Vice Chair to determine consensus and if necessary to manage the election. If there is an election, the Vice Chair managing the election should not be a candidate.

Article 23: TSG Chairman responsibilities

The TSG Chairman is responsible for the overall management of the technical work within the TSG and its Working Groups. The Chairman has an overall responsibility to ensure that the activities of the TSG follow the Partnership Project Working Procedures.

The Chairman may nominate officials to assist in the work.

The Chairman may delegate tasks to the Vice Chairmen.

The Chairman may be assisted by the Support Team.

Recognizing the need to balance the requirement of rapid specification development with the limited resources of participants, the Chairman should encourage a minimum number of meetings, especially parallel meetings, and maximize the use of electronic means to advance the work.

In performing TSG tasks, the Chairman shall maintain strict impartiality and act in the interest of 3GPP.

Article 24: TSG and WG Chairman and Vice Chairmen dismissal

A secret ballot shall be taken for the proposal to dismiss a TSG or WG Chairman or Vice Chairman because of a failure to effectively perform their duties, if requested by 30% of the TSG or WG membership list. 71% of the votes cast are required to recommend dismissal.

The PCG shall dismiss a Chairman or Vice Chairman on the proposal of the TSG.

Article 25: TSG and WG decision making

TSGs and WGs shall endeavour to reach consensus on all issues, including decisions on Technical Specifications and Technical Reports. If consensus cannot be achieved, the Chairman can decide to take a vote. The vote may

exceptionally be performed by a secret ballot if decided by the TSG or WG. A vote may be conducted during a TSG or WG meeting or by correspondence.

A proposal shall be deemed to be approved if 71% of the votes cast are in favour. Abstentions or failure to submit a vote shall not be included in determining the number of votes cast.

It is the responsibility of the Chairman to ensure that questions to be voted upon are phrased in a positive yes/no manner, with 71% required to approve the question. Questions should not be phrased as the TSG shall not do something. Examples of appropriate questions are; Shall the TSG approve the Specification and send it to the SDOs? Shall the liaison be approved? Shall the new WI be approved? Shall the existing WI be stopped? If the issue is to choose option A or B, the question should be split into two questions, with the Chairman selecting the order. First, shall the TSG take option A as the way forward? If this question fails the second question is, shall the TSG take option B as the way forward?

Contributions on which decisions will be based should be made available in good time before each meeting. TSGs may establish informal guidelines for dealing with late contributions.

Article 26: TSG and WG voting during a meeting

The following procedures apply for voting during a TSG or WG meeting:

?? before voting, a clear definition of the issues shall be provided by the Chairman;

?? Voting Members shall only be entitled to one vote;

?? if an Voting Member has more than one representative present, only one representative may vote;

?? each Voting Member may only cast the vote once;

?? each Voting Member may carry proxy votes for up to five other Voting Members. All proxy votes shall be accompanied by a letter of authority from the authorising Voting Member. Proxies will not be taken into account when determining the quorum;

?? the quorum required for voting during a TSG or WG meeting shall be 30% of the total number of Voting Member companies on the TSG or WG membership list;

?? the result of the vote shall be recorded in the meeting report.

Article 27: TSG or WG voting by correspondence

The following procedures apply for voting by correspondence:

?? before voting, a clear definition of the issues shall be provided by the Chairman and disseminated to all on the TSG or WG membership list;

?? Voting Members shall only be entitled to one vote;

?? each Voting Member may only cast the vote once within the voting period;

?? the voting period shall be 30 days;

?? there are no quorum requirements;

?? The result of the vote should be disseminated to everybody on the TSG or WG active participants list.

Article 28: TSG or WG voting for the election of TSG or WG Chairman and Vice Chairman

In the case where there is more than one candidate for TSG or WG Chairman or Vice Chairman, a secret ballot shall be used. For interpreting the result of the secret ballot the following procedure shall apply:

When, in the first ballot, no candidate has obtained 71% of the votes cast, a second ballot shall be held. In the second ballot, in cases where there are only two candidates, the candidate obtaining the higher number of votes is elected. In cases where there are more than two candidates, if none of them has obtained 71% of the votes, a third and final ballot shall be held among the two candidates who have obtained the highest number of votes in the second ballot. The candidate obtaining the higher number of votes in the third ballot is then elected.

The TSG or WG Chairman shall be responsible for the voting process and shall ensure that confidentiality is maintained.

Article 29: TSG or WG Chairman's decision appeal process

An Individual Member of 3GPP who opposes a Chairman's ruling on a vote taken within a TSG or WG may submit its case to the PCG for decision. In such cases the Individual Member shall also inform the relevant TSG or WG Chairman.

When a TSG or WG Chairman has made a ruling, his decision shall be taken as the basis for future operations, unless or until overturned by the PCG.

Article 30: TSG and WG meetings

TSGs and WGs shall meet as necessary to complete their work within the prescribed timeframe. TSGs should endeavour to hold their meetings at the same time and place to assist in the overall co-ordination of the work.

Meeting locations should reflect the geographical diversity of the TSG and WG participants.

Article 31: TSG and WG meeting invitation

The invitation to a TSG or WG meeting and the necessary logistical information shall be disseminated at least 21 days before the meeting to all on the TSG or WG membership list.

Article 32: TSG and WG meeting agenda

The draft agenda for a TSG or WG meeting shall be disseminated by the responsible Chairman to all on the TSG or WG membership list at least 21 days before a meeting. The draft agenda should indicate subject matters where voting may be required. The draft agenda shall indicate elections to be held (including known candidates).

Article 33: TSG and WG meeting registration

Every attendee shall register on arrival at each TSG or WG meeting. Each attendee who represents an Individual Member shall declare the precise name of that Individual Member. An attendee may only register to represent one Individual Member. This information shall be used for the preparation of voting forms.

Article 34: TSG and WG meeting document and file naming

Documents for a TSG or WG meeting shall follow a consistent numbering system as shown in the following example:

3GPP/TSGx.m#y(nn)-zzz

This numbering system has four logical elements:

1) **3GPP**: to indicate that it is a 3GPP document;
2) **/TSGx**: the name of the TSG;

   where x : **R** (Radio Access Network)

   N (Core Network)

   S (Service and System Aspects)

   T (Terminals)
3) **m** Working Group identity (if required)
4) **#y**: TSG or WG meeting number
5) **(nn)**: to indicate the year, e.g. (99);
6) **zzz**: unique number of the document or its status, etc.

Electronic document files shall follow an 8+3 naming convention as follows:

Gxmnnzzz.ext

This numbering system has four logical elements:

1) **/Gx**: the name of the *TS**G*** Group;

   where **x** : **R** (Radio Access Network)

   N (Core Network)

   S (Service and System Aspects)

   T (Terminals)
2) **m** Working Group identity (if required)
3) **nn**: to indicate the year, e.g. (98);
4) **zzz**: unique number of the document or its status, etc.
5) .**ext**: file type extension e.g. pdf, rtf

No provision is made for the use of revision numbers. Documents which are a revision of a previous version should indicate the document number of that previous version.

Article 35: TSG and WG Participant and Membership List

Each TSG and WG shall maintain a list of active participants and voting Individual Members (company or agency). To qualify for either list it is necessary to attend TSG or WG meetings. Participants who are absent from three consecutive meetings of a TSG or WG without justification shall be removed from the active participants list. An Individual Member which is absent from three consecutive meetings of the TSG or WG without justification shall be removed from the

voting membership list. In either case, those removed shall be re-instated after attending one meeting. The right to vote is reinstated at the next (second) meeting attended.

When a new TSG or WG is formed an Individual Member is added to the voting membership list at the first meeting that they are represented, and can vote at the second meeting where they are represented. Exceptionally, if inadequate notice (less than 21 days) is given for the first meeting of the new group, an Individual Member may be added to the voting membership list and vote at the groups second meeting (the election meeting) even if they were not represented at the groups first meeting. Only an Individual Member who was represented at the groups first meeting may provide a proxy for the second meeting.

The active participants list shall be used for document distribution. The voting membership list shall be used to establish quorum and for determining those eligible to take part in a vote.

Any group that wants to call an electronic meeting (audio, video, document distribution by posting or e-mail, etc) may do so, although this works best with smaller groups. Therefore, all electronic meetings are allowed and count towards attendance. However, if a meeting is designated as face-to-face, provision of bridge and speakerphone capabilities for those requesting it would be at the discretion of the host. Also, in this case for those only participating by speakerphone they would not be counted toward quorum, attendance or allowed to vote (TSG, WG).Article 36: TSG Sub Working Groups

A Working Group may establish a Sub Working Group (SWG) with defined Terms of Reference. The Working Group shall appoint a SWG Chairman. The SWG shall work by consensus. The meeting notice requirements for a SWG meeting are the same as for TSGs and WGs.

SECTION G: WORK PROGRAMME AND TECHNICAL CO-ORDINATION

Article 37: Work Programme

The 3GPP Work Programme shall consist of Work Items defined by the TSGs.

Article 38: Work Items

A 3GPP Work Item is a specification task defined in terms of the following principal parameters:

?? title;

?? intended output (i.e. Technical Specifications or Technical Reports);

?? impact on other Technical Specifications and Technical Reports;

?? technical scope, including the field of application of the intended output;

?? impact on other 3GPP Work Items;

?? the schedule of tasks to be performed;

?? the identities of the supporting Individual Members;

?? the identity of the Work Item Rapporteurs.

Article 39: Work Item creation

Each proposed new Work Item shall be supported by at least four Individual Members, and their names shall be recorded in the Work Item definition prepared for the TSG approval. One or more persons shall be named as Rapporteur for the proposed Work Item, and the Rapporteur shall act as the prime contact point on technical matters and for information on progress throughout the drafting phases. The supporting Individual Members are expected to contribute to and progress the new work item throughout the drafting phases.

In addition to the above, TSGs shall approve new Work Items, giving all essential parameters. The proposal shall be entered into the 3GPP work programme, clearly marked as a new entry, for which a unique reference identity shall be allocated.

Article 40: Work Item adoption by PCG

The 3GPP work programme shall be made available to all Individual Members. A new Work Item shall remain flagged as "new" until the end of the month following the month during which the 3GPP work item was entered into the 3GPP work programme. A new Work Item shall be adopted by the PCG unless a substantial objection is received from an Individual Member or Partner during this period. At the end of the period, the "new" flag shall be removed (even if there is an objection) and it is the responsibility of any objecting Individual Member or Partner to discuss their objections with the TSG Chairman. If it is not possible to resolve the objection, it is the responsibility of the Individual Member or Partner to raise the issue with the PCG.

The TSGs shall ensure that the 3GPP Work Item details are maintained at regular intervals.

Article 41: Work Item stopping

Prior to completion of the intended 3GPP output, the responsible TSG may conclude that a Work Item is no longer required. Any Work Item shall automatically be considered by a TSG for stopping, if no progress has been achieved in a given period of time, typically one year. In such cases, the Work Item shall be flagged as "stopped" in the Work Programme. The proposal to stop a Work Item shall be fully justified.

The Work Programme shall be updated accordingly, and shall show the Work Item as "stopped" until the end of the month following the month during which the Work Item was initially flagged.

The Work Item will be stopped by the PCG unless substantial objection is received from an Individual Member during this period. It is the responsibility of any objecting Individual Member to discuss their objections with the TSG Chairman. If it is not possible to resolve the objection, it is the responsibility of the Individual Member to raise the issue with the PCG.

Article 42: Technical co-ordination

The PCG shall be responsible for determining the overall time frame and for managing the overall work progress. The System Aspects TSG shall have a particular responsibility for the technical co-ordination of work being undertaken within 3GPP, and for overall system architecture and system integrity. Problems encountered in performing this technical co-ordination role shall be reported immediately to the PCG.

SECTION H: DELIVERABLES

Article 43: Deliverable types

3GPP shall prepare, approve and maintain documents known as Technical Specifications and Technical Reports. Such documents shall be drawn up by the TSGs and shall, following approval at that level, be submitted to the participating Organizational Partners to be submitted to their respective standardization processes.

Article 44: Approval process

Approval of Technical Specifications and Technical reports by a TSG shall normally be by consensus.

Where consensus cannot be achieved in the TSG a vote may be taken.

When Technical Specifications and Technical Reports become sufficiently stable, they shall be put under change control of the relevant TSG. The further elaboration of these Technical Specifications and Technical Reports shall be achieved by change requests to be approved by the TSG.

Article 45: Drafting rules

The Technical Specifications and Technical Reports drafted by the TSGs shall follow the 3GPP drafting rules, using document processing facilities, format, languages and notations agreed by the Organizational Partners, and on a medium suited for electronic document handling and publishing.

Article 46: Copyright and ownership

The Organizational Partners will have joint ownership (including copyright) of the Technical Specifications and Technical Reports produced by 3GPP.

Article 47: Conversion by Organizational Partners

Organizational Partners shall use their best endeavours to convert the Technical Specifications and Technical Reports approved by the Partnership Project into national/regional deliverables in a timely manner through their normal processes.

The Organizational Partners are urged not to change the technical parts of the Technical Specifications and Technical Reports; they may add non-technical parts required by their own deliverable schemes and they may add descriptions of options selected.

Organizational Partners should ensure that all un-resolved comments raised during their public enquiry and approval phases are delivered to the appropriate TSG.

SECTION I: REPORTING

Article 48: Chairman’s reporting obligations

A report shall be prepared by the Chairman following all PCG and TSG meetings.

Article 49: Changes to structure and officials

The Chairman of each TSG shall inform the PCG of all organizational changes concerning Working Groups and their officials. An up to date record of the 3GPP structure shall be maintained.

Article 50: Calendar of meetings

The PCG and TSGs shall maintain an up to date calendar of the dates and venues for future meetings.

SECTION J: EXTERNAL RELATIONS

Article 51: Relationship with the ITU

3GPP results should be submitted to the ITU as appropriate.

3GPP will not contribute directly to the ITU. Formal contributions to ITU Study Groups shall be made by Individual Members who are also members of the ITU. 3GPP Technical Specifications and Technical Reports may be taken as the technical content of such contributions.

Article 52: Relations with other groups

TSGs and WGs are encouraged to liaise directly with the relevant technical bodies within the 3GPP and Partners as appropriate.

A liaison statement shall clearly communicate what is expected from the receiver, i.e., which parts are for information, which questions are expected to be clarified and by whom (especially if there are multiple receivers), and also when an answer is needed, e.g., when is the next meeting of the group sending the liaison statement.

The PCG shall maintain a list, based on proposals received from the TSGs, of external organizations with whom the TSGs and subtending WGs are authorised to liaise directly. External liaisons can not be approved by SWGs or Ad Hoc groups.

The external liaison approval process is described in Annex D.

SECTION K: MISCELLANEOUS

Article 53: Resources

The resources for the operation of 3GPP shall be managed by the Organizational Partners. The resources are allocated to the TSGs by the PCG.

Article 54: Support Team

The Partners shall provide logistical support to, and assist in the operation of, 3GPP. The support shall be in the form of a Support Team which shall operate under the overall management of the PCG and the day to day management of TSGs.

Article 55: Intellectual Property Rights (IPR) Policy

Individual Members shall be bound by the IPR Policy of their respective Organizational Partner.

Individual Members should declare at the earliest opportunity, any IPRs which they believe to be essential, or potentially essential, to any work ongoing within 3GPP.

Organizational Partners should encourage their respective members to grant licences on fair, reasonable terms and conditions and on a non-discriminatory basis.

The PCG shall maintain a register of IPR declarations relevant to 3GPP, received by the Organizational Partners.

Article 56: Working language

The working language for 3GPP shall be English.

Meetings of the PCG and TSGs shall be conducted in English.

3GPP Technical Specifications and Technical Reports shall be prepared in English (as defined by the Shorter Oxford English Dictionary).

Article 57: Duration

3GPP shall be task oriented and on completion of the tasks the future of 3GPP shall be re-considered. The continuation of 3GPP shall therefore be confirmed by the Organizational Partners on an annual basis.

Article 58: Review of activities

An evaluation of the activities of 3GPP should be made by the Organizational Partners at regular intervals.

Article 59: Dissolution, winding up

In the event of a voluntary dissolution of 3GPP, the Partners shall determine the terms of liquidation by consensus. All issues shall be documented and distributed at least 30 days prior to decisions being made.

Article 60: Amendments to 3GPP Working Procedures

These Partnership Project Working Procedures may only be amended by decision taken by the PCG.

Annex A: Definitions

Attendee:	An individual taking part in a TSG/WG meeting physically or by electronic means, if not designated as a face-to-face meeting.
Consensus:	General agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interest and by a process that involves seeking to take into account the views of all parties concerned and to reconcile any conflicting arguments. (Note: consensus need not imply unanimity).
Conversion:	The transformation of a 3GPP output document into an Organizational Partners deliverable following the Organizational Partners' recognized processes.
Drafting Rules:	A document approved by the Organizational Partners providing rules for the drafting of 3GPP Technical Specifications and Technical Reports.
Election:	The voting process used to identify an individual from a number of individuals.
Guest:	An entity fulfilling the criteria to become a future Individual Member, which has been granted temporary participation rights in the 3GPP
Individual Member:	A member of an Organizational Partner having participation rights within that Organizational Partner and which has registered to take part in 3GPP.
Market Representation Partner:	An Partner invited by the Organizational Partners to participate in 3GPP to offer advice and to bring into 3GPP a consensus view of market requirements.
Observer:	An Organization fulfilling the criteria to become a future Partner which has been granted temporary participation rights in the 3GPPOrganizational Partner: A recognized Standards Organization which has been accepted as a Partner in 3GPP.
Partner:	An Organizational Partner or a Market Representation Partner of 3GPP.
Partnership Project Agreement:	The document signed by 3GPP Partners defining their rights and obligations.
Partnership Project Description:	A document which describes the overall structure and operation of 3GPP.
Sub Working Group	A subordinate body of a Working Group.
Support Team:	A number of persons dedicated to support 3GPP.
Technical Report:	A 3GPP output document containing mainly informative elements approved by a Technical Specification Group.
Technical Specification:	A 3GPP output document containing normative provisions approved by a Technical Specification Group.
Voting Member	An Individual Member who has voting rights within a TSG/WG.
Work Item:	The documented record of a specific technical activity of 3GPP.
Work Programme:	The documented record of the all technical activities of 3GPP.
Working Group:	A subordinate body of a Technical Specification Group.

Annex B: Abbreviations

3GPP	Third Generation Partnership Project
ARIB	Association of Radio Industries and Businesses
CDMA	Code Division Multiple Access
CWTS	China Wireless Telecommunications Standards Group
ETSI	European Telecommunications Standards Institute
FDD	Frequency Division Duplex
GSM	Global System for Mobile Communication
IMT-2000	International Mobile Telecommunication
ITU	International Telecommunication Union
PCG	Project Co-ordination Group
SWG	Sub Working Group
T1	Standards Committee T1
TDD	Time Division Duplex
TSG	Technical Specification Group
TTA	Telecommunications Technology Association
TTC	Telecommunication Technology Committee
UIM	User Identity Module
UTRA	Universal Terrestrial Radio Access
UTRAN	Universal Terrestrial Radio Access Network
W-CDMA	Wideband CDMA
WG	Working Group

Annex C: Individual member application form

APPLICATION FORM
for INDIVIDUAL MEMBERSHIP
of the THIRD GENERATION PARTNERSHIP PROJECT
Please complete this form and return it to your Organizational Partner

COMPANY NAME .....

Please indicate below which ORGANIZATIONAL PARTNER you are a member of

ARIB	
CWTS	
ETSI	
T1	
TTA	
TTC	

Please indicate below which Technical Specification Groups you wish to participate in:

Radio Access Network	
Core Network	
Terminals	
Service and System Aspects	

Signed by (Authorized Representative)	
Print name	
Position	
Date	
Telephone	
Fax	
Email	
Company Web site URL	

Contact persons family name	
Contact persons given name	
Job title	
Mailing address	
Telephone	
Fax	
Email	

ANNEX D: EXTERNAL LIAISON APPROVAL PROCESS

The following process shall be used in order for a TSG to gain approval to liaise with an external organization;

?? TSG Chairman, or Vice Chairman at the Chairmans direction, shall send a request to the PCG Secretary containing the following information:

(a) Name of Organization

(b) Contact information (including URL)

(c) Purpose of the liaison request (brief description)

(d) Urgency of decision-minimum 3 days (e.g. 3 days, 5 days, 2 weeks)

?? PCG Secretary shall send request to the PCG exploder list giving deadline for negative comments

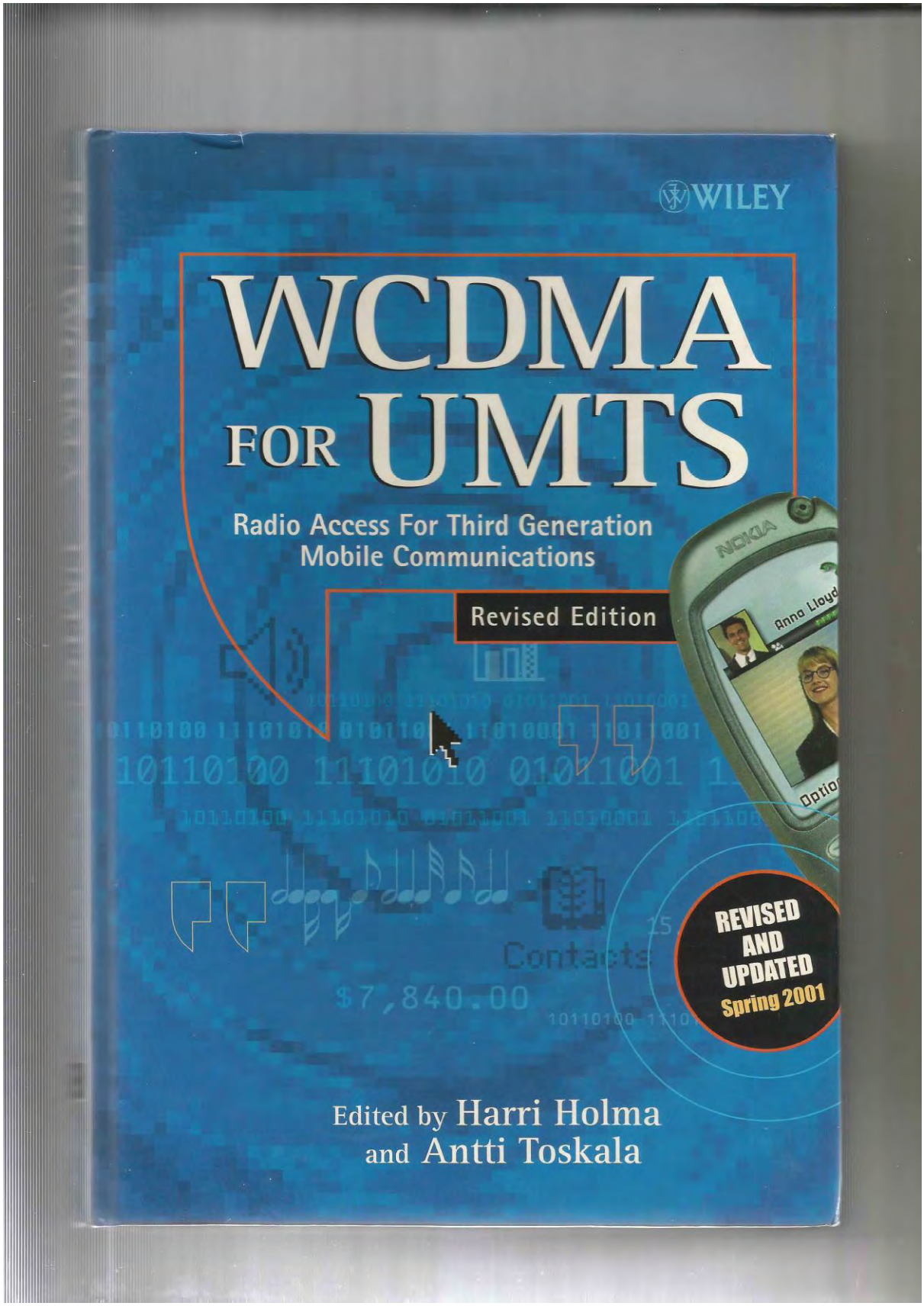
?? Request shall be considered approved unless negative comments received

?? PCG Secretary will inform PCG members and update the web page accordingly

?? A TSG or any subtending Working Group may send individual liaisons to any external organization on that TSGs approved list without further PCG approval, except if the statement is considered "sensitive" by the TSG Chairman, in which case PCG clearance is needed.

?? It is not necessary to have all external liaisons copied to the PCG and/or TSG SA. The liaison originating TSG should decide, at its own discretion, who should be copied. External liaisons that may have management implications such as schedules, organization, process, procedures, and policy shall be copied to the PCG, or approved by the PCG if "sensitive".

APPENDIX 6



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IPR2024-01143

WCDMA FOR UMTS

Radio Access For Third Generation Mobile Communications

Revised edition

Edited by
Harri Holma and Antti Toskala
Both of Nokia, Finland

JOHN WILEY & SONS, LTD
Chichester • New York • Weinheim • Brisbane • Singapore • Toronto

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Reprinted April 2001

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British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN 0 471 48687 6

Typeset by Laser Words, Madras, India
Printed and bound in Great Britain by Antony Rowe Ltd, Chippenham, Wiltshire.
This book is printed on acid-free paper responsibly manufactured from sustainable forestry,
in which at least two trees are planted for each one used for paper production.

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4.5.3 *cdma2000*

The cdma2000 air interface proposal to ITU is the result of work in TR45.5 on the evolution of IS-95 towards the third generation. The cdma2000 proposal is based partly on IS-95 principles with respect to synchronous network operation, common pilot channels, and so on, but it is a wideband version with three times the bandwidth of IS-95. The ITU proposal contains further bandwidth options as well as the multi-carrier option for downlink. The cdma2000 proposal has a high degree of commonality with the Global CDMA 1 ITU proposal from TTA, Korea.

The cdma2000 multi-carrier option is covered in more detail in Chapter 13, as being currently standardised by 3GPP2.

4.5.4 *TR46.1*

The WIMS W-CDMA was not based on work derived from an existing second generation technology but was a new third generation technology proposal with no direct link to any second generation standardisation. It was based on the constant processing gain principle with a high number of multicodes in use, thus showing some fundamental differences but also a level of commonality with WCDMA technology in other forums.

4.5.5 *WP-CDMA*

WP-CDMA (Wideband Packet CDMA) resulted from the convergence between W-CDMA N/A of T1P1 and WIMS W-CDMA of TR46.1 in the US. The main features of the WIMS W-CDMA proposal were merged with the principles of W-CDMA N/A. The merged proposal was submitted to the ITU-R IMT-2000 process towards the end of 1998, and to the 3GPP process at the beginning of 1999. Its the most characteristic feature, compared with the other WCDMA-based proposals, was a common packet mode channel operation for the uplink direction, but there were also a few smaller differences.

4.6 Creation of 3GPP

As similar technologies were being standardised in several regions around the world, it became evident that achieving identical specifications to ensure equipment compatibility globally would be very difficult with work going on in parallel. Also, having to discuss similar issues in several places was naturally a waste of resources for the participating companies. Therefore initiatives were made to create a single forum for WCDMA standardisation for a common WCDMA specification.

The standardisation organisations involved in the creation of the 3rd Generation Partnership Project (3GPP) [9] were ARIB (Japan), ETSI (Europe), TTA (Korea), TTC (Japan) and T1P1 (USA) as shown in Figure 4.2. The partners agreed on joint efforts for the standardisation of UTRA, now standing for Universal Terrestrial Radio Access, as distinct from UTRA (UMTS Terrestrial Radio Access) from ETSI, also submitted to 3GPP. Companies such as manufacturers and operators are members of 3GPP through the respective standardisation organisation to which they belong.

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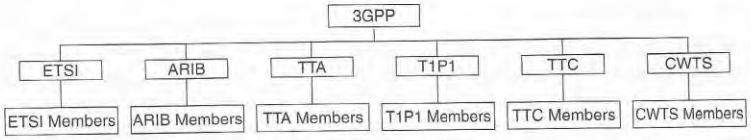


Figure 4.2. 3GPP organisational partners

Later during 1999, CWTS (the China Wireless Telecommunication Standard Group) also joined 3GPP and contributed technology from TD/SCDMA, a TDD-based CDMA third generation technology already submitted to ITU-R earlier.

3GPP also includes market representation partners: GSM Association, UMTS Forum, Global Mobile Suppliers Association, IPv6 Forum and Universal Wireless Communications Consortium (UWCC). In [9] there are up-to-date links to all participating organisations.

The work was initiated formally at the end of 1998 and the detailed technical work was started in early 1999, with the aim of having the first version of the common specification, called Release-99, ready by the end of 1999.

Within 3GPP, four different technical specification groups (TSG) were set up as follows:

- Radio Access Network TSG
- Core Network TSG
- Service and System Aspects TSG
- Terminals TSG

Within these groups the one most relevant to the WCDMA technology is the Radio Access Network TSG (RAN TSG), which has been divided into four different working groups as illustrated in Figure 4.3.

The RAN TSG will produce Release-99 of the UTRA air interface specification. The work done within the 3GPP RAN TSG working groups has been the basis of the technical description of the UTRA air interface covered in this book. Without such a global initiative, this book would have been forced to focus on a single regional specification, though with many similarities to those of other regions. Thus the references throughout this book are to the specification volumes from 3GPP.

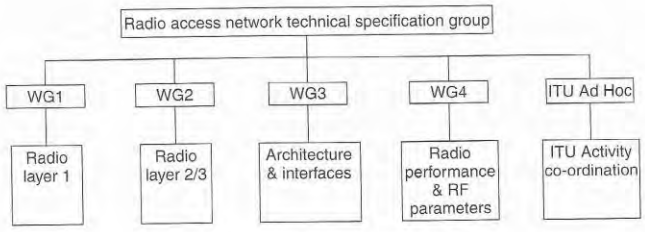


Figure 4.3. 3GPP RAN TSG working groups

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During the first half of 1999 the inputs from the various participating organisations were merged in a single standard, leaving the rest of the year to finalise the detailed parameters for the first full release, Release-99, of UTRA from 3GPP. The member organisations have undertaken individually to produce standard publications based on the 3GPP specification. Thus, for example, the Release-99 UMTS specifications from ETSI are identical to the Release-99 specifications produced by 3GPP. The latest specifications can be obtained from 3GPP [9].

During 2000, further work on GSM evolution was moved from ETSI and other forums to 3GPP, including work on GPRS and EDGE. A new TSG, TSG GERAN was set up for this purpose.

4.7 Creation of 3GPP2

Work done in TR45.5 and TTA was merged to form 3GPP2, focused on the development of cdma2000 Direct-Sequence (DS) and Multi-Carrier (MC) mode for the cdma2000 third generation component. This activity has been running in parallel with the 3GPP project, with participation from ARIB, TTC and CWTS as member organisations. Recently the main concentration has been on the MC mode work, due to decisions resulting from the global harmonisation efforts.

4.8 Harmonisation Phase

During the spring of 1999 several operators and manufacturers held series of meetings to seek further harmonisation and convergence between the CDMA-based third generation solutions, WCDMA and cdma2000. For the 3GPP framework the ETSI, ARIB, TTA and T1P1 concepts had already been merged to a single specification, while cdma2000 was still on its own in TR45.5. As a result of several meetings and telephone conferences, the manufacturers and operators agreed to adopt a harmonised global third generation CDMA standard consisting of three modes: Multi-Carrier (MC), Direct Spread (DS) and Time Division Duplex (TDD). The MC mode was based on the cdma2000 multi-carrier option, the DS mode on WCDMA (UTRA FDD), and the TDD mode on UTRA TDD. The agreement was to phase in a modular approach in which both core networks could be used with all air interface alternatives, as described in Figure 1.4 in Chapter 1.

The main technical impacts of these harmonisation activities were the change of UTRA FDD and TDD mode chip rate from 4.096 Mcps to 3.84 Mcps and the inclusion of a common pilot for UTRA FDD. The work in 3GPP2 focused on the MC mode, and the DS mode from cdma2000 was abandoned. The result is that globally there is only one Direct Spread (DS) wideband CDMA standard, WCDMA.

4.9 IMT2000 Process in ITU

In the ITU, recommendations have been developed for third generation mobile communications systems, the ITU terminology being called IMT-2000 [10], formerly FPLMTS. In the ITU-R, ITU-R TG8/1 has worked on the radio-dependent aspects, while the radio-independent aspects have been covered in ITU-T SG11.

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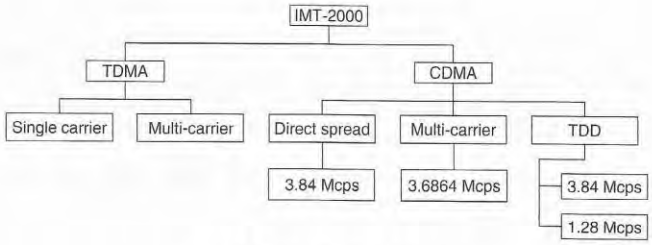


Figure 4.4. ITU-R IMT-2000 grouping

In the radio aspects, ITU-R TG8/1 received a number of different proposals during the IMT-2000 candidate submission process. In the second phase of the process, evaluation results were received from the proponent organisations as well as from the other evaluation groups that studied the technologies. During the first half of 1999 recommendation IMT.RKEY was created which describes the IMT-2000 multimode concept.

The ITU-R IMT-2000 process was finalised at the end of 1999, when the detailed specification (IMT-RSCP) was created and the radio interface specifications were approved by ITU-R [11]. The detailed implementation of IMT-2000 will continue in the regional standards bodies. The ITU-R process has been an important external motivation and timing source for IMT-2000 activities in regional standards bodies. The requirements set by ITU for an IMT-2000 technology have been reflected in the requirements in the regional standards bodies, for example in ETSI UMTS 21.01 [5], in order for the ETSI submission to fulfil the IMT-2000 requirements. The ITU-R interaction between regional standardisation bodies in the IMT-2000 process is reflected in Figure 4.5.

The ITU-R IMT-2000 grouping, with TDMA- and CDMA-based groups, is illustrated in Figure 4.4. The UTRA FDD (WCDMA) and cdma2000 are part of the CDMA interface, as CDMA Direct Spread and CDMA Multi-Carrier respectively. UWC-136 and DECT are part of the TDMA-based interface in the concept, as TDMA Single Carrier and TDMA Multi-Carrier respectively. The TDD part in CDMA consists of UTRA TDD from 3GPP and TD-SCDMA from CWTS. For the FDD part in the CDMA interface, harmonisation has been completed, and the harmonisation process is expected to continue for the CDMA TDD mode within 3GPP during 2000 and 2001.

4.10 Beyond 3GPP Release-99

Upon completion of the Release-99 specifications, work will concentrate on specifying new features as well as making the necessary corrections to Release-99. Typically such corrections arise as implementation proceeds and test systems are updated to include the latest changes in the specifications. As experience in various forums has shown, a major step forward in system capabilities with many new features requires a phasing-in period for the specifications. Fortunately, the main functions have been verified in the various test systems in operation since 1995, but only the actual implementation will reveal any errors and inconsistencies in the fine detail of the specifications.

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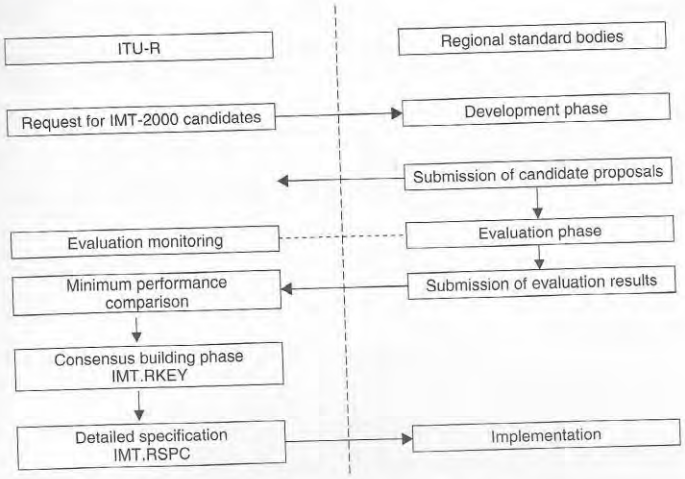


Figure 4.5. Relationship of ITU-R to the regional standards bodies

In 3GPP the next version of the specifications was originally considered as Release 2000, but since that the Release naming was adjusted so that next release is called Release 4 due to the 03/2001. Release 4 will contain only minor adjustment with respect to the Release'99. Bigger items are foreseen for inclusions in Release 5, including reaching for the data rates even up to the 10 Mbps in the downlink direction. Release 5 is due for the end of 2001. Release'99 specifications have a version number starting with 3 while Release 4 and 5 specifications have version number starting logically with 4 and 5 respectively.

During coming years, part of the process is to specify the extensions for connecting UTRA FDD to IS-41 based core networks. Work will be carried out on cdma2000 to allow connection to GSM-based core networks. This development will offer operators some degree of flexibility in selecting their third generation technology, assuming they are not aiming to launch such a service immediately, since Release-99 does not yet contain these options.

On the TDD side, further alignment is expected between the TDD mode in UTRA and the TDD mode from CWTS (China). This process is expected to continue after Release-99 is completed in 3GPP. 3GPP Release-4 is also planned to cover the lower chip rate (1.28 Mcps) TDD.

Other interesting developments are expected in the area of using IP based technology in UTRA. First step is going to be the IP based transport option in Release 4 and further releases are likely to see IP technology shaping the internal architecture of the UTRA Network (UTRAN). Also some of the protocols developed by the Internet Engineering Task Force (IETF) [12], such as robust IP header compression suitable for cellular transmission, are foreseen to be adopted as part the UTRA Rel'4 specifications.

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[12] http://www.ietf.org

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APPENDIX 7

The Wayback Machine - https://web.archive.org/web/20000817060414/http://www.3gpp.org:80/Participation…



List of 3GPP Individual Members

- About 3GPP
- Organizational Partners
- Project Coordination Group
- Technical Specification Group
- Meetings
- Participation
- List of Individual Members
- Documents Area
- 3G Specifications
- Mobile Competence Centre

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China Mobile Company Corporation (CMCC)	Eastern Communications Co., Ltd.
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MINISTERIO DELLE COMUNICAZIONI	MITEL Semiconductor Ltd
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TELIT Mobile Terminals S.p.A.	TELIT NETWORKS S.p.A.
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T1

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JAPAN TELECOM CO.,LTD.	Lucent Technologies Japan Ltd.
Matsushita Communication Industrial Co., Ltd.	MITSUBISHI ELECTRIC CORPORATION
NEC Corporation	Nippon Ericsson K.K.
Nippon Telecommunications Consulting Co., Ltd	Nippon Telegraph and Telephone Corporation (NTT)
NOKIA-Japan Co., Ltd	NTT Communication Ware Corporation
NTT Mobile Communications Network Inc. (DoCoMo)	NTT Software Corporation
OKI ELECTRIC IND., Co., LTD	Siemens K.K.

APPENDIX 8

The 3G IP Multimedia Subsystem (IMS)

Merging the Internet and the Cellular Worlds

Gonzalo Camarillo and Miguel A. García-Martín

Both of
Ericsson, Finland



John Wiley & Sons, Ltd

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IPR2024-01143

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British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN 0470 87156 3

Typeset by the author using LaTeX Software.
Printed and bound in Great Britain by Antony Rowe Ltd, Chipenham, Wiltshire.
This book is printed on acid-free paper responsibly manufactured from sustainable forestry in which at least two trees are planted for each one used for paper production.

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Chapter 2

The History of the IMS Standardization

In Chapter 1 we mentioned that the IMS uses Internet protocols. When the IMS needs a protocol to perform a particular task (e.g., to establish a multimedia session), the standardization bodies standardizing the IMS take the Internet protocol intended for that task and specify its use in the IMS. Still, no matter how simple this may sound the process of choosing protocols to be used in the IMS can sometimes get tricky. Sometimes, the Internet protocol that is chosen lacks some essential functionality, or does not even exist at all. When this happens the IMS standardization bodies contact the standardization body developing Internet protocols to work together on a solution. We will cover this collaboration in Section 2.5. Nevertheless, before jumping into that we will introduce in Section 2.1 all the standardization bodies involved in IMS development. We need to know who is who and which functions of the IMS each of them performs.

2.1 Relations between IMS-related Standardization Bodies

The ITU (International Telecommunication Union) IMT-2000 (International Mobile Telecommunications-2000) is the global standard for 3G (third generation) networks. IMT-2000 is the result of the collaboration between different standards bodies and aims at providing access to telecommunication services using radio links, which include satellite and terrestrial networks.

We will focus on two of the standard bodies involved in IMT-2000: 3GPP (Third Generation Partnership Project) and 3GPP2 (Third Generation Partnership Project 2). Still, they are not the only ones working within IMT-2000. Other bodies, such as the ITU-R (ITU-Radiocommunication Sector), for instance, are also involved in IMT-2000 but on different areas than the IMS.

Both 3GPP and 3GPP2 have standardized their own IMS (IP Multimedia Subsystem). The 3GPP IMS and the 3GPP2 IMS are fairly similar, but, nevertheless, have a few differences (Appendix A lists the most important differences).

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An important similarity between the 3GPP IMS and the 3GPP2 IMS is that both use Internet protocols, which have been traditionally standardized by the IETF (Internet Engineering Task Force). Consequently, both 3GPP and 3GPP2 collaborate with the IETF in developing protocols that fulfill their requirements. The following sections introduce the IETF, 3GPP, and 3GPP2 and provide a brief history of the IETF-3GPP/3GPP2 collaboration.

In addition to the standard bodies we have just mentioned, OMA (Open Mobile Alliance [144]) will play an important role in developing IMS services in the near future. While 3GPP and 3GPP have standardized (or are standardizing) a few IMS services, such as basic video calls or conferencing, from now on OMA will focus on service standardization for the IMS (of course, other standard bodies and third parties besides OMA may also develop services for the IMS).

2.2 Internet Engineering Task Force (IETF)

The Internet Engineering Task Force (IETF) is a loosely self-organized collection of network designers, operators, vendors, and research institutions that work together to develop the architecture, protocols, and operation of the public Internet. The IETF is body that is open to any interested individual. The IETF is not a corporation and, therefore, does not have a board of directors, members, nor dues.

The IETF is the standardization body that has developed most of the protocols that are currently used on the Internet. The IETF does not standardize networks, architectures combining different protocols, the internal behaviour of nodes, nor APIs (Application Programming Interface). The IETF is the protocol factory for IP-related protocols.

2.2.1 Structure of IETF

Work in the IETF is organized in working groups. Each working group is chartered to perform specific tasks, such as the delivery of a precise set of documents. Each working group has from one to three chairs, who take care that the working group completes its chartered tasks in time. Working groups have a temporary lifetime; so, once they have delivered their documents, either they are rechartered or they cease to exist. Figure 2.1 shows a few, but not all, of the working groups in the IETF; there are more than 100 active working groups in the IETF. The complete up-to-date list of active working groups is available at:

`http://www.ietf.org/html.charters/wg-dir.html`

Working groups get an acronym name that identifies the chartered task. For instance, SIPPING is the acronym of "Session Initiation Protocol Investigation", SIMPLE is the acronym of "SIP for Instant Messaging and Presence Leveraging Extensions" or AAA for "Authentication, Authorization and Accounting".

A collection of working groups form an Area Directorate. There are currently eight areas, as illustrated in Figure 2.1.

Each area has one or two area directors who, together with the IETF chairman, form the IESG (Internet Engineering Steering Group). The IESG is the technical

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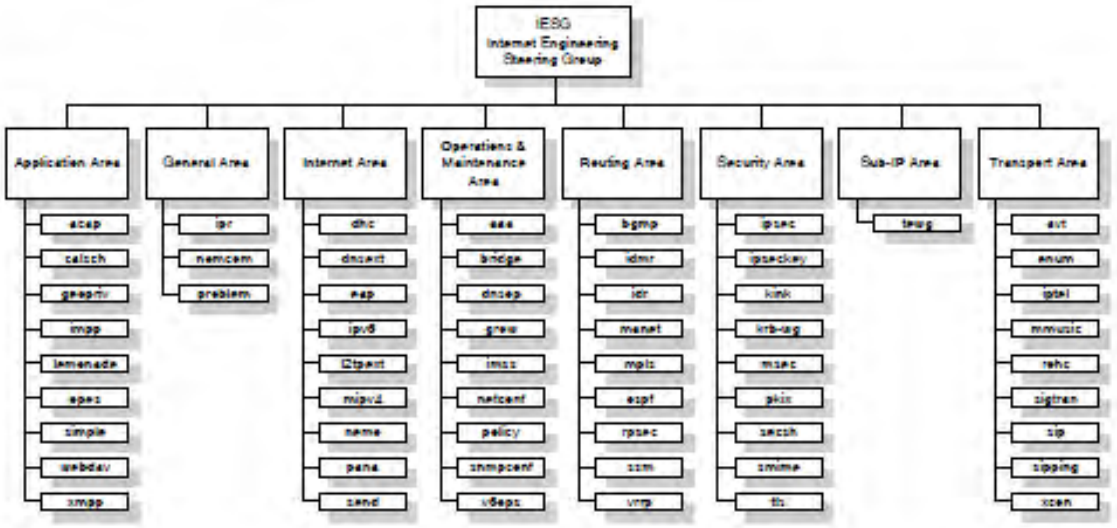


Figure 2.1: The structure of the IETF

management team of the IETF. They decide on which areas the IETF should work and review all the specifications that are produced.

The following web pages contain the complete list of the working groups of all areas and the charter of the SIPPING working group respectively.

```
http://www.ietf.org/html.charters/wg-dir.html
http://www.ietf.org/html.charters/sipping-charter.html
```

The IAB (Internet Architecture Board) is the body that provides technical leadership and handles appeals. Its web page is:

```
http://www.iab.org/
```

2.2.2 Working Group Operations

The technical work in the IETF is done within the working groups. Working groups do not have any kind of membership; they are formed by a number of volunteers that work as individuals. That is, they do not represent their companies when working for the IETF.

Most of the technical discussions within a working group take place in its mailing list. Even the decisions made at face-to-face meetings (held three times a year) have to be confirmed in the mailing list.

The technical documents used within the working groups are called Internet-Drafts. There are two types of them: individual submissions and working group items. Individual submissions are technical proposals submitted by an individual or individuals. If the working group decides that an individual submission is a good starting point to work on a particular topic, it becomes a working group item.

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Individual submissions and working group items can be distinguished by the name of the file where they are stored. Individual submissions start with:

```
draft-author's_name
```

while working group items start with:

```
draft-ietf-name_of_the_working_group
```

A list of all the Internet-Drafts can be found at:

```
http://www.ietf.org/internet-drafts/
```

When a working group feels that a working group item is ready for publication as an RFC the working group chairs send it to the IESG. The IESG may provide feedback to the working group (e.g., ask that working group to change something in the draft) and, eventually, decides whether or not a new RFC is published.

Although most of the Internet-Drafts that the IESG receives come from working groups an individual may also submit an Internet-Draft to the IESG. This usually happens with topics that are not large enough to grant the creation of a working group, but which, nevertheless, are of interest to the Internet community.

It is important to note that Internet-Drafts, even if they are working group items, represent work in progress and should only be referenced as such. Internet-Drafts are temporary documents that expire and cease to exist six months after they are issued. They can change at any time without taking into consideration backward compatibility issues with existing implementations. Only when a particular Internet-Draft becomes an RFC can it be considered a stable specification.

2.2.3 Types of RFCs

The technical documents produced by the IETF are called RFCs (Request For Comments). According to the contents of the document there are three main types of RFCs:

- Standards-track RFCs.
- Non-standards-track RFCs.
- BCP (Best Current Practise) RFCs.

Standards-track RFCs typically define protocols and extensions to protocols. According to the maturity of the protocol there are three levels of standards-track RFCs: proposed standard, draft standard, and Internet standard. Standards-track specifications are supposed to advance from proposed to draft and, finally, to Internet standard as they get more and more mature. An important requirement in this process is that a particular specification is implemented by several people to show that different independently built implementations that follow the same specification can successfully interoperate.

Nevertheless, in practise only a few RFCs reach the draft standard level and even fewer become Internet standards. At present, the specifications of many protocols that are used massively on the Internet are proposed standards.

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There are three types of non-standards-track RFCs: experimental, informational, and historical (which are called *historic* RFCs). Experimental RFCs specify protocols with a very limited use, while informational RFCs provide information for the Internet community about some topic, such as a requirements document or a process. When a standards-track RFC becomes obsolete, it becomes a historic RFC.

BCP RFCs record the best current practise known to the community to perform a particular task. They may deal with protocol issues or with administrative issues.

Figure 2.2 shows the relations between all the RFC types. A list of all the RFCs published so far and their status can be fetched from:

`http://www.ietf.org/iesg/1rfc_index.txt`

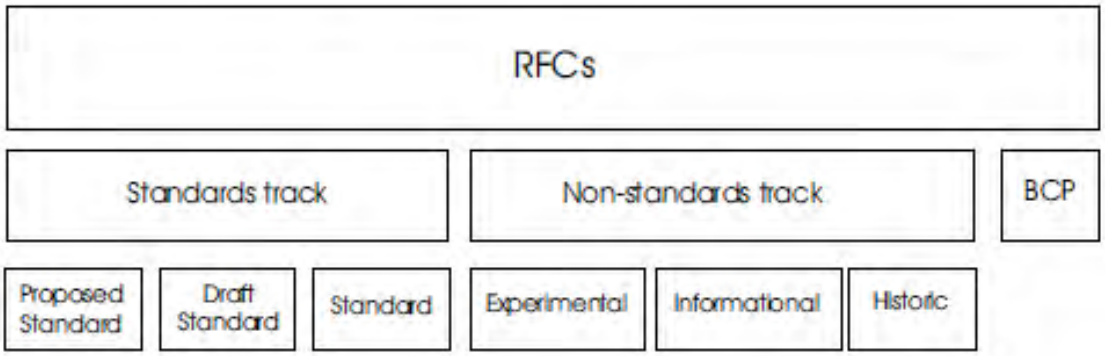


Figure 2.2: RFC types

RFCs can be downloaded from the following web page by just introducing the RFC number:

`http://www.ietf.org/rfc.html`

Additionally, the RFC Editor offers a web page that allows us to search for RFCs by title, number, author and keywords:

`http://www.rfc-editor.org/rfcsearch.html`

2.3 Third Generation Partnership Project (3GPP)

The Third Generation Partnership Project (3GPP) was born in 1998 as a collaboration agreement between a number of regional telecommunication standard bodies, known as *organizational partners*. The current 3GPP organizational partners are:

1. ARIB (Association of Radio Industries and Business) in Japan,

   `http://www.arib.or.jp/english/`

2. CCSA (China Communications Standards Associations) in China,

   `http://www.ccsa.org.cn/english/`

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3. ETSI (European Telecommunications Standards Institute) in Europe,

   `http://www.etsi.org/`

4. Committee T1 in the United States of America,

   `http://www.t1.org/`

5. TTA (Telecommunications Technology Association) of Korea

   `http://www.tta.or.kr/English/`

6. TTC (Telecommunication Technology Committee) in Japan,

   `http://www.ttc.or.jp/e/`

3GPP was originally chartered to develop globally applicable Technical Specifications and Technical Reports for a third-generation mobile system based on GSM. The scope has been reinforced to include maintenance and development of GSM specifications including the supported and evolved radio networks, technologies, and packet access technologies.

Besides the organizational partners, *market representation partners* provide the partnership with market requirements. Market representation partners include, among others, the UMTS Forum, 3G Americas, the GSM Association, the Global mobile Suppliers Association, the TD-SCDMA Forum, and the IPv6 Forum.

3GPP maintains an up-to-date web site at:

`http://www.3gpp.org/`

2.3.1 3GPP Structure

3GPP is organized in a Project Co-ordination Group (PCG) and Technical Specification Groups (TSGs), as illustrated in Figure 2.3. The PCG is responsible for the overall management of 3GPP, time plans, allocation of work, etc. The technical work is produced in the TSGs. At the moment there are five TSGs, responsible for the Core Network (CN), System and Services Aspects (SA), GSM EDGE Radio Access Network (GERAN), Radio Access Network (RAN), and Terminals (T). Each of the TSGs is further divided into Working Groups. Each of the Working Groups is allocated particular tasks. For instance, CN WG1 is responsible for all the detailed design of the usage of SIP and SDP in the IMS, CN WG3 for interworking aspects and CN4 for all the detailed design of the usage of Diameter. SA WG1 is responsible for the requirements, SA2 for the architecture, SA WG3 for the security aspects, SA WG4 for the codecs, and SA WG5 for the operation and maintenance of the network.

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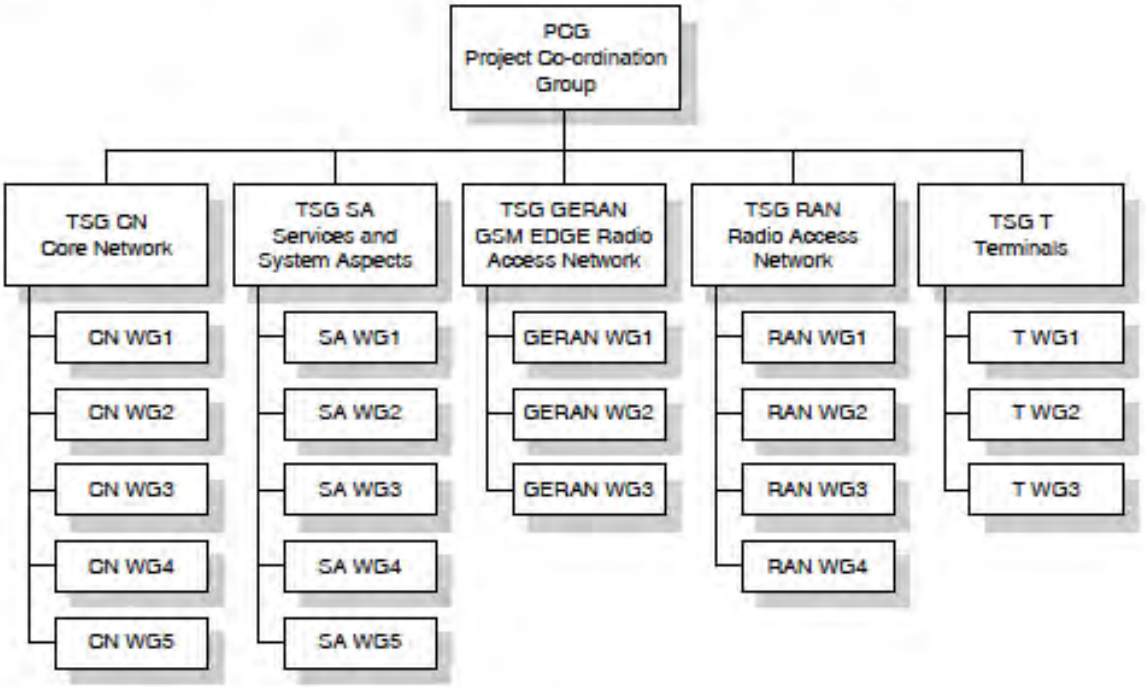


Figure 2.3: The structure of 3GPP

2.3.2 3GPP Deliverables

3GPP working groups do not produce standards. Instead, they produce Technical Specifications (TS) and Technical Reports (TR) that are approved by the TSGs. Once approved they are submitted to the organizational partners to be submitted to their respective standardization processes. The final part of the process is in the organizational partners' hands when they approve the TSs or TRs as part of their standards procedures. As a result, there is a set of globally developed standards that are ready to be used in a particular region.

3GPP TSs and TRs are numbered according to the sequence of four or five digits that follow the pattern "xx.yyy". The first two digits "xx" identify the series number, and the last two or three digits "yy" or "yyy" identify a particular specification within a series. For instance, 3GPP TS 23.228 [21] describes the architectural aspects of the IMS.

3GPP groups its specifications in what is called a *Release*. 3GPP Release 5 contains the first version of the IMS. 3GPP Release 6 contains enhancements to the IMS. The reader must note that the IMS is just a fraction of the 3GPP deliverables in a particular Release, as there are other non-IMS specifications included in a 3GPP Release. 3GPP TSs and TRs include a version number that follows the pattern "x.y.z", where "x" represents the 3GPP Release where the specification is published, "y" is the version number, and "z" is a sub-version number. So, 3GPP TS 23.228 version 5.8.0 means version 8.0 of the Release 5 version of TS 23.228.

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3GPP TSs and TRs are publicly available at the 3GPP web site at either of the following URIs:

`http://www.3gpp.org/specs/specs.htm`

`http://www.3gpp.org/ftp/Specs/archive/`

2.4 Third Generation Partnership Project 2 (3GPP2)

If 3GPP was born to evolve GSM specifications into a third-generation cellular system, the Third Generation Partnership Project 2 (3GPP2) was born to evolve North American and Asian cellular networks based on ANSI/TIA/EIA-41 standards and CDMA2000© radio access into a third-generation system. 3GPP2 like 3GPP is a partnership project whose members are also known as *organizational partners*. The current list of organizational partners include ARIB (Japan), CCSA (China), TIA (Telecommunications Industry Association) (North America), TTA (Korea), and TTC (Japan). Probably, the reader has noticed that most of them are also organizational partners of 3GPP.

Like 3GPP, 3GPP2 gets market requirements and advice from *market representation partners*. At the moment the list includes the IPv6 Forum and the CDMA Development Group.

2.4.1 3GPP2 Structure

The 3GPP2 structure mimics the structure of 3GPP, as illustrated in Figure 2.4. A Steering Committee (SC) is responsible for the overall standardization process and the planning. The technical work is done in Technical Specification Groups (TSGs). TSG-A is focused on the Access Network Interface, TSG-C on CDMA2000© technology, TSG-S on Service and System Aspects, and TSG-X in Intersystems Operations. TGS-X was born as a merger between the former TSG-N (Core Networks) and TSG-P (Packet Data) TSGs. The structure of TSN-X is not completely defined yet.

2.4.2 3GPP2 Deliverables

Like 3GPP, 3GPP2 does not produce standards but, instead, Technical Specifications (TSs) and Technical reports (TRs). The documents are created by the TSGs and approved by the SC. Then, they are submitted to the organizational partners to be submitted to their respective standardization processes.

3GPP2 TSs and TRs are numbered with a sequence of letters and digits that follows the scheme "A.Bxxxx-yyy-R" where "A" is a letter that represents the name of the TSG that delivers the document, "B" can be an "R" letter to indicate a TR or a requirements document, but it can also be an "S" letter to indicate a TS. "xxxx" is a sequential number allocated to the document. An optional "yyy" sequence of digits can further identify the chapter within a specification series. The "R" letter identifies the revision. The version number follows the specification and indicates a major and

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APPENDIX 9

3GPP MEMBERSHIP

2024-07-01 Version 1.1

New Query

Selected categories:

- **Individual Members (all partners)**

Choose csv separator : , export to csv file

INDIVIDUAL MEMBERS

Organization	Country	Partner
3in (Industrial Internet Innovation Center (Shanghai) Co.,Ltd.)	CHINA	CCSA
450connect GmbH (450connect GmbH)	GERMANY	ETSI
A.S.T.R.I.D. SA/NV (A.S.T.R.I.D. SA)	BELGIUM	ETSI
ABP, NRTA (Academy of Broadcasting Planning, NRTA)	CHINA	CCSA
ABS (Academy of Broadcasting Science)	CHINA	CCSA
AccelerComm Ltd (AccelerComm Ltd)	UNITED KINGDOM	ETSI
Acer Incorporated (Acer Incorporated)	TAIWAN, PROVINCE OF CHINA	ETSI
adare GmbH (adare GmbH)	GERMANY	ETSI
Airbus (Airbus DS SLC)	FRANCE	ETSI
Ajou University (Ajou University)	KOREA (REPUBLIC OF)	TTA
albis-elcon system GermanyGmbH (albis-elcon system Germany GmbH)	GERMANY	ETSI
Alibaba (China) Group., Ltd. (Alibaba (China) Group., Ltd.)	CHINA	CCSA
All Connected BV (Rail Connected)	NETHERLANDS	ETSI
Allot Ltd (Allot Ltd)	ISRAEL	ETSI
Altan Redes S.A.P.I. de C.V. (Altan Redes S.A.P.I. de C.V.)	MEXICO	ETSI
Amazon Web Services (Amazon Web Services EMEA SARL)	LUXEMBOURG	ETSI
Amdocs Software Systems Ltd (Amdocs Software Systems Limited)	IRELAND	ETSI
Analog Devices, Inc. (Analog Devices, Inc.)	UNITED STATES	ATIS
Anemone Technology (Anemone Technology)	DENMARK	ETSI
Anritsu Corporation (ANRITSU CORPORATION)	JAPAN	ARIB
Anritsu EMEA Ltd (Anritsu EMEA Ltd)	UNITED KINGDOM	ETSI
Anterix (Anterix)	UNITED STATES	ATIS
Apple	CHINA	CCSA

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(Apple Purchase Operation management)		
Apple (Guizhou) **(Apple Technology Services (Guizhou) Ltd.)**	CHINA	CCSA
Apple (UK) Limited **(Apple (UK) Limited)**	UNITED KINGDOM	ETSI
Apple (Ulanqab) **(Apple Technology Services (Ulanqab) Ltd)**	CHINA	CCSA
Apple AB Denmark **(Apple AB, filial AF Apple Aktiebolag, Sverige)**	DENMARK	ETSI
Apple Benelux B.V. **(Apple Benelux B.V.)**	NETHERLANDS	ETSI
Apple Benelux B.V. - Belgium **(Apple Benelux B.V. - Belgium Branch)**	BELGIUM	ETSI
Apple Computer Trading Co. Ltd **(Apple Computer Trading (Shanghai) Co., Ltd.)**	CHINA	CCSA
Apple Distribution Intl Ltd **(Apple Distribution International Limited)**	IRELAND	ETSI
Apple France **(Apple France)**	FRANCE	ETSI
Apple GmbH **(Apple GmbH)**	GERMANY	ETSI
Apple Inc **(Apple Inc)**	UNITED STATES	ATIS
Apple R&D **(Apple R&D)**	CHINA	CCSA
Apple Solutions **(Apple Solutions Consulting Services (Beijing) Company Limited)**	CHINA	CCSA
Apple Switzerland AG **(Apple Switzerland AG)**	SWITZERLAND	ETSI
Apple Trading **(Apple Trading (Shanghai) Company Limited)**	CHINA	CCSA
AQSACOM S.A.S. **(AQSACOM S.A.S.)**	FRANCE	ETSI
Arriver Software AB **(Arriver Software AB)**	SWEDEN	ETSI
ARTICLE19 **(ARTICLE19)**	UNITED KINGDOM	ETSI
ASELSAN **(ASELSAN Inc.)**	TÜRKIYE	ETSI
AsiaInfo **(AsiaInfo Technologies (China), Inc.)**	CHINA	CCSA
AsiaInfo Technologies Inc **(AsiaInfo Technologies Inc)**	CHINA	ETSI
ASR **(ASR Microelectronics Co., Ltd.)**	CHINA	CCSA
ASTRI **(Hong Kong Applied Science & Technology Research Institute)**	HONG KONG	ETSI
Astrome Technologies Pvt Lt **(Astrome Technologies Pvt Lt)**	INDIA	TSDSI
ASUSTEK COMPUTER (SHANGHAI) **(ASUSTEK COMPUTER (SHANGHAI) CO. LTD.)**	CHINA	CCSA
AT&T **(AT&T)**	UNITED STATES	ATIS
AT&T GNS Belgium SPRL **(AT&T Global Network Services Belgium SPRL)**	BELGIUM	ETSI
AT&T Labs, Inc **(AT&T Labs, Inc)**	UNITED STATES	ATIS
AT&T Services, Inc. **(AT&T Services, Inc.)**	UNITED STATES	ATIS
ATEME **(ATEME SA)**	FRANCE	ETSI
Avanti **(Avanti Communications Ltd)**	UNITED KINGDOM	ETSI
Axyom.Core **(Axyom.Core Inc)**	UNITED STATES	ETSI
BAE Systems AI Ltd	UNITED KINGDOM	ETSI

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(BAE Systems Applied Intelligence Limited)		
Baicells Technologies Co. Ltd **(Baicells Technologies Co. Ltd)**	CHINA	CCSA
BBC **(BRITISH BROADCASTING CORPORATION)**	UNITED KINGDOM	ETSI
B-Com **(B-Com)**	FRANCE	ETSI
BDBOS **(Federal Agency for Public Safety Digital Radio)**	GERMANY	ETSI
BeammWave AB **(BeammWave AB)**	SWEDEN	ETSI
Beijing Lenovo Software Ltd. **(Beijing Lenovo Software Ltd.)**	CHINA	CCSA
BEIJING SAMSUNG TELECOM R&D **(BEIJING SAMSUNG TELECOM R&D CENTER)**	CHINA	CCSA
Beijing Xiaomi Electronics **(Beijing Xiaomi Electronics)**	CHINA	CCSA
Beijing Xiaomi Mobile Software **(Beijing Xiaomi Mobile Software Co., Ltd)**	CHINA	CCSA
Beijing Xiaomi Mobile Software **(Beijing Xiaomi Mobile Software Co., Ltd.)**	CHINA	ETSI
Beijing Xiaomi Software Tech **(Beijing Xiaomi Software Technology)**	CHINA	CCSA
Bell Mobility **(Bell Mobility)**	CANADA	ETSI
BfV **(Bundesamt für Verfassungsschutz)**	GERMANY	ETSI
Bharti Airtel Limited **(Bharti Airtel Limited)**	INDIA	TSDSI
BIFNC **(BRICS Institute of Future Network)**	CHINA	CCSA
BIPT **(BIPT - Belgian Institute for Postal services & Telecommunications)**	BELGIUM	ETSI
Bittium Wireless Ltd. **(Bittium Wireless Ltd.)**	FINLAND	ETSI
BJTU **(Beijing Jiaotong University)**	CHINA	CCSA
BKA **(Bundeskriminalamt)**	GERMANY	ETSI
Bluetest AB **(Bluetest AB)**	SWEDEN	ETSI
BMF **(Austrian Federal Ministry of Finance)**	AUSTRIA	ETSI
BMW AG **(Bayerische Motoren Werke AG)**	GERMANY	ETSI
BMWK **(Bundesministerium für Wirtschaft und Klimaschutz)**	GERMANY	ETSI
BOCRA **(Botswana Communications Regulatory Authority)**	BOTSWANA	ETSI
BOUYGUES Telecom **(BOUYGUES Telecom)**	FRANCE	ETSI
Broadcom (EU) **(Broadcom Europe Ltd)**	UNITED KINGDOM	ETSI
BSI (DE) **(Bundesamt für Sicherheit in der Informationstechnik)**	GERMANY	ETSI
BSNL **(Bharat Sanchar Nigam Limited)**	INDIA	TSDSI
BT plc **(British Telecommunications plc)**	UNITED KINGDOM	ETSI
BTL Inc. **(BTL Inc.)**	CHINA	ETSI
BTPDI **(Beijing Telecom Planning & Designing Institute Co.,LTD.)**	CHINA	CCSA
BUPT **(Beijing University of Posts and Telecommunications)**	CHINA	CCSA
Bureau Veritas ADT	TAIWAN, PROVINCE OF CHINA	ETSI

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(Bureau Veritas Consumer Products Services (Hong Kong) Limited, Taoyuan Branch)		
Bytedance **(Bytedance (Nanjing) Technology Research and Development Co., Ltd.)**	CHINA	CCSA
C Spire Wireless **(C Spire Wireless)**	UNITED STATES	ATIS
CableLabs **(CableLabs)**	UNITED STATES	ETSI
Cadence Design Systems Inc. **(Cadence Design Systems Inc.)**	UNITED STATES	ETSI
CAICT. **(China Academy of Information and Communications Technology)**	CHINA	CCSA
CALTTA **(CALTTA TECHNOLOGIES CO., LTD.)**	CHINA	CCSA
Cambium Networks Limited **(Cambium Networks Limited)**	UNITED KINGDOM	ETSI
CAMBRIDGE CONSULTANTS LTD **(CAMBRIDGE CONSULTANTS LTD)**	UNITED KINGDOM	ETSI
CANON Research Centre France **(CANON Research Centre France SAS)**	FRANCE	ETSI
CAPGEMINI **(CAPGEMINI TECHNOLOGY SERVICES INDIA LIMITED)**	INDIA	TSDSI
Catapult **(Satellite Applications Catapult Ltd)**	UNITED KINGDOM	ETSI
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CATT **(China Academy of Telecommunication Technology - (Datang Telecom Technology and Industry Group))**	CHINA	CCSA
CBN **(China Broadcasting Network Group Corporation Ltd.)**	CHINA	CCSA
CCU **(National Chung Cheng University)**	TAIWAN, PROVINCE OF CHINA	ETSI
C-DAC **(Centre for Development of Advanced Computing)**	INDIA	TSDSI
C-DOT **(C-DOT)**	INDIA	TSDSI
CEA **(Commissariat à l'Energie Atomique et aux Energies Alternatives)**	FRANCE	ETSI
Cellnex **(Cellnex Telecom)**	SPAIN	ETSI
CENC **(CETC Network & Communications Group Co., Ltd.)**	CHINA	CCSA
CEPRI **(China Electric Power Research Institute)**	CHINA	CCSA
Ceragon Networks AS **(Ceragon Networks AS)**	NORWAY	ETSI
CERTH **(CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS)**	GREECE	ETSI
cetecom advanced GmbH **(cetecom advanced GmbH)**	GERMANY	ETSI
CEWiT **(Centre of Excellence in Wireless Technology (CEWiT))**	INDIA	TSDSI
CGL **(CHAZAH GROUP LTD)**	UGANDA	ETSI
Changeself **(Changeself Technology(Shenzhen)Co.,Ltd.)**	CHINA	ETSI
Charter Communications, Inc **(Charter Communications, Inc)**	UNITED STATES	ATIS
Chengdu OPPO Telecommunication **(Chengdu OPPO Mobile Telecommunications Corp., ltd.)**	CHINA	CCSA
CHENGDU TD TECH LTD. **(CHENGDU TD TECH LTD.)**	CHINA	CCSA
China Broadnet **(China Broadnet Mobile Communications Co., Ltd.)**	CHINA	CCSA
China Mobile (Hangzhou) Inf. **(China Mobile (Hangzhou) Information Technology Co., Ltd.)**	CHINA	CCSA
China Mobile (Suzhou) Software	CHINA	CCSA

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(China Mobile (Suzhou) Software Technology Co., Ltd.)		
China Mobile Com. Corporation **(China Mobile Communications Corporation (CMCC))**	CHINA	CCSA
China Mobile E-Commerce Co. **(China Mobile E-Commerce Co.)**	CHINA	CCSA
China Mobile Group Device Co. **(China Mobile Group Device Co., Ltd)**	CHINA	CCSA
China Mobile International Ltd **(China Mobile International Limited)**	CHINA	CCSA
China Mobile M2M Company Ltd. **(China Mobile M2M Company Ltd.)**	CHINA	CCSA
China Southern Power Grid Co. **(China Southern Power Grid Co., Ltd.)**	CHINA	CCSA
China Telecom Corporation Ltd. **(China Telecom Corporation Ltd.)**	CHINA	CCSA
China Telecommunications **(China Telecommunications Corporation)**	CHINA	ETSI
China Telecomunication Corp. **(China Telecomunication Corporation)**	CHINA	CCSA
China Unicom **(China Unicom)**	CHINA	CCSA
Chinatelecom Cloud **(China Telecom Cloud Technology Co., Ltd)**	CHINA	CCSA
Chongqing University **(Chongqing University)**	CHINA	CCSA
CHTTL **(Chunghwa Telecommunication Laboratories, Chunghwa Telecommunication Co.)**	TAIWAN, PROVINCE OF CHINA	ETSI
CICT **(China Information Communication Technologies Group)**	CHINA	ETSI
CICT **(China Information Communication Technologies Group Corporation)**	CHINA	CCSA
CICT Mobile **(CICT Mobile Communication Technology Co., Ltd.)**	CHINA	CCSA
CICTCI **(CICT Connected and Intelligent Technologies Co., Ltd)**	CHINA	CCSA
CIS **(Center for Internet Security)**	UNITED STATES	ETSI
CISA ECD **(Cybersecurity and Infrastructure Security Agency (CISA) ECD)**	UNITED STATES	ATIS
Cisco Systems **(Cisco Systems)**	UNITED STATES	ATIS
Cisco Systems Belgium **(Cisco Systems Belgium)**	BELGIUM	ETSI
Cisco Systems France **(Cisco Systems France)**	FRANCE	ETSI
CITC **(CHINA INFORMATION TECHNOLOGY DESIGNING&CONSULTING INSTITUTE CO.,LTD.)**	CHINA	CCSA
CKH IOD UK LIMITED **(CKH IOD UK LIMITED)**	UNITED KINGDOM	ETSI
CMDI **(China Mobile Group Design Institute Co., Ltd)**	CHINA	CCSA
CNC **(CLAP-N-CLANK)**	JAPAN	ETSI
CNES **(CNES - Centre National d'Etudes Spatiales)**	FRANCE	ETSI
Cobham SatCom A/S **(Thrane & Thrane A/S)**	DENMARK	ETSI
Cognyte **(Cognyte Technologies Israel Ltd.)**	ISRAEL	ETSI
Cohere Technologies **(Cohere Technologies)**	UNITED STATES	ATIS
Collins Aerospace **(Collins Aerospace)**	UNITED STATES	ATIS
Comba **(Comba Network Systems Company Limited)**	CHINA	CCSA
Comcast	UNITED STATES	ATIS

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(Comcast)		
Comprion GmbH **(Comprion GmbH)**	GERMANY	ETSI
Comtech Telecommunications Cor **(Comtech Telecommunications Corp)**	UNITED STATES	ATIS
Consort Digital **(Consort Digital Private Limited)**	INDIA	ETSI
Continental Automotive **(Continental Automotive Technologies GmbH)**	GERMANY	ETSI
Convida Wireless **(Convida Wireless, LLC)**	UNITED STATES	ETSI
Cosmian **(Cosmian Tech SAS)**	FRANCE	ETSI
CQUPT **(Chongqing University of Posts and Telecommunications)**	CHINA	CCSA
Crosscall **(Crosscall)**	FRANCE	ETSI
CSA **(Cyber Security Agency of Singapore)**	SINGAPORE	ETSI
CSCN **(CHINA SATELLITE NETWORK GROUP CO., LTD.)**	CHINA	CCSA
CSIRO **(Commonwealth Scientific and Industrial Research Organisation)**	AUSTRALIA	ETSI
cstconsultancy **(CyberSecurity & Technology Consultancy LTD)**	UNITED KINGDOM	ETSI
CTSI **(China Telecom System Integration Co., Ltd)**	CHINA	CCSA
CTTC **(Centre tecnologic de Telecomunicacions de Catalunya)**	SPAIN	ETSI
CU Digital Technology **(China Unicom Digital Technology Co., Ltd.)**	CHINA	CCSA
CUC **(Communication University of China)**	CHINA	CCSA
CUG **(China Unicom Global Limited)**	CHINA	CCSA
Cybercore **(Beijinig Cybercore Technology Co., Ltd.)**	CHINA	CCSA
Cygnusemi **(Cygnusemi)**	CHINA	CCSA
Czech Telecommunication Office **(Czech Telecommunication Office)**	CZECH REPUBLIC	ETSI
DAC-SSR-UPC **(D. Arquitectura de Computadores/GT Smart Sustainable Resources -Universidad Politecnica de Cataluna)**	SPAIN	ETSI
DanKook University **(DanKook University)**	KOREA (REPUBLIC OF)	TTA
DARS TELECOM S.L. **(DARS TELECOM S.L.)**	SPAIN	ETSI
Datang Linktester Technology **(Datang Linktester Technology Co., Ltd.)**	CHINA	CCSA
Datang Mobile Com. Equipment **(Datang Mobile Communications Equipment Co., Ltd)**	CHINA	CCSA
DeepSig Inc **(DeepSig Inc)**	UNITED STATES	ATIS
DEKRA **(DEKRA testing and Certification, S.A.U.)**	SPAIN	ETSI
Dell Technologies **(Dell Technologies)**	UNITED STATES	ATIS
DENSO CORPORATION **(DENSO CORPORATION)**	JAPAN	ARIB
Department of Telecom **(Department of Telecommunications)**	INDIA	TSDSI
Dept of Home Affairs **(Department of Home Affairs)**	AUSTRALIA	ETSI
Deutsche Telekom AG **(Deutsche Telekom AG)**	GERMANY	ETSI
DIGG	SWEDEN	ETSI

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(Agency for Digital Government)		
DISA **(Defense Information Systems Agency)**	UNITED STATES	ATIS
Dish Network **(Dish Network)**	UNITED STATES	ATIS
DLR **(Deutsches Zentrum für Luft- und Raumfahrt e.V.)**	GERMANY	ETSI
DOCOMO Beijing Labs **(DOCOMO Beijing Communications Laboratories Co., Ltd)**	CHINA	CCSA
DOCOMO Communications Lab. **(DOCOMO Communications Laboratories Europe GmbH)**	GERMANY	ETSI
Dolby France SAS **(Dolby France SAS)**	FRANCE	ETSI
Dolby Germany GmbH **(Dolby Germany GmbH)**	GERMANY	ETSI
Dolby Sweden AB **(Dolby Sweden AB)**	SWEDEN	ETSI
Dolby Technology India Pvt Ltd **(Dolby Technology India Pvt Ltd)**	INDIA	TSDSI
Douyin **(Beijing Douyin Information Service Co., Ltd.)**	CHINA	CCSA
DP **(DigitalPlatforms SpA)**	ITALY	ETSI
DSIT **(Department for Science, Innovation and Technology)**	UNITED KINGDOM	ETSI
DTCY **(Deloitte Tohmatsu Cyber LLC)**	JAPAN	TTC
DTS Licensing Limited **(DTS Licensing Limited)**	IRELAND	ETSI
EA Consult Services Ltd **(EA Consult Services Ltd)**	UNITED KINGDOM	ETSI
EBU **(EBU - European Broadcasting Union)**	SWITZERLAND	ETSI
EchoStar **(EchoStar)**	UNITED KINGDOM	ETSI
ECTL **(Enhanced Communications & Technologies Pvt Ltd)**	INDIA	TSDSI
EDF Recherche et Développement **(EDF)**	FRANCE	ETSI
EFORT **(Etudes et Formations en Telecommunication)**	FRANCE	ETSI
Elbit Systems **(Elbit Systems C4I and Cyber Ltd)**	ISRAEL	ETSI
Element Materials Technology **(Element Materials Technology Warwick Ltd)**	UNITED KINGDOM	ETSI
Elena **(Elena Geo Systems Pvt Ltd)**	INDIA	TSDSI
Embotech AG **(Embotech AG)**	SWITZERLAND	ETSI
EMITE **(EMITE Ingenieria S.L.)**	SPAIN	ETSI
ENENSYS **(ENENSYS Technologies SA)**	FRANCE	ETSI
Ericsson (China) **(Ericsson (China) Communications, Co.Ltd)**	CHINA	CCSA
Ericsson España S.A. **(Ericsson España S.A.)**	SPAIN	ETSI
Ericsson France S.A.S **(Ericsson France S.A.S)**	FRANCE	ETSI
Ericsson GmbH, Eurolab **(Ericsson GmbH, Eurolab - Unternehmensbereich Forschung und Entwicklung)**	GERMANY	ETSI
Ericsson Hungary Ltd **(Ericsson Hungary Ltd)**	HUNGARY	ETSI
Ericsson Inc. **(Ericsson Incorporated)**	UNITED STATES	ATIS
Ericsson India Private Limited	INDIA	TSDSI

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(Ericsson India Private Limited)		
Ericsson Japan K.K. **(Ericsson Japan K.K.)**	JAPAN	ARIB
Ericsson Limited **(Ericsson Limited)**	UNITED KINGDOM	ETSI
Ericsson LM **(Ericsson Telefonaktiebolaget LM)**	SWEDEN	ETSI
Ericsson Telecomunicazioni SpA **(Ericsson Telecomunicazioni SpA)**	ITALY	ETSI
Ericsson-LG Co., LTD **(Ericsson-LG Co., LTD)**	KOREA (REPUBLIC OF)	TTA
Erillisverkot **(Suomen Erillisverkot Oy)**	FINLAND	ETSI
ERNET India **(ERNET India)**	INDIA	TSDSI
ESA **(ESA - European Space Agency)**	NETHERLANDS	ETSI
E-SPACE **(E-SPACE SAS)**	FRANCE	ETSI
ESSEN INNOVATION **(ESSEN INNOVATION COMPANY LIMITED)**	CHINA	CCSA
E-surfing Digital **(E-surfing Digital Life Technology Co., Ltd)**	CHINA	CCSA
Esurfing IoT **(Esurfing IoT Tech Co., Ltd)**	CHINA	CCSA
ETELM **(Electronique Telematique ETELM)**	FRANCE	ETSI
Etherstack Wireless Limited **(Etherstack Wireless Limited)**	UNITED KINGDOM	ETSI
ETRI **(Electronics & Telecommunications Research Institute)**	KOREA (REPUBLIC OF)	TTA
ETS-Lindgren Europe **(ETS-Lindgren Europe)**	FINLAND	ETSI
EURECOM **(EURECOM)**	FRANCE	ETSI
Eurofins KCTL **(Eurofins KCTL Co. Ltd)**	KOREA (REPUBLIC OF)	ETSI
European Commission **(EC - European Commission)**	BELGIUM	ETSI
European Patent Organisation **(European Patent Organisation)**	GERMANY	ETSI
EUTC **(European Utilities Telecom Council (EUTC))**	BELGIUM	ETSI
Eutelsat Group **(Eutelsat S.A.)**	FRANCE	ETSI
EVE Compliancy Solutions **(EVE Compliancy Solutions)**	NETHERLANDS	ETSI
Everactive **(Everactive)**	UNITED STATES	ATIS
F5 **(F5, Inc.)**	UNITED STATES	ETSI
Fabasoft AG **(Fabasoft AG)**	AUSTRIA	ETSI
Facebook Japan G.K. **(Facebook Japan G.K.)**	JAPAN	ARIB
Fastweb S.p.A. **(Fastweb S.p.A.)**	ITALY	ETSI
FAU **(Friedrich-Alexander-Universität Erlangen-Nürnberg)**	GERMANY	ETSI
FBK **(Fondazione Bruno Kessler)**	ITALY	ETSI
FCC **(Federal Communications Commission)**	UNITED STATES	ATIS
Fiberhome Technologies Group **(Fiberhome Technologies Group)**	CHINA	CCSA
FirstNet	UNITED STATES	ATIS

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(FirstNet)		
FORCE Technology **(FORCE Technology)**	DENMARK	ETSI
Ford **(Ford Motor Company)**	UNITED STATES	ETSI
Fraunhofer FOKUS **(Fraunhofer Institute for Open Communication Systems FOKUS)**	GERMANY	ETSI
Fraunhofer HHI **(Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute)**	GERMANY	ETSI
Fraunhofer IIS **(Fraunhofer Institut für Integrierte Schaltungen IIS)**	GERMANY	ETSI
Frequentis AG **(Frequentis AG)**	AUSTRIA	ETSI
Fujitsu Limited **(Fujitsu Limited)**	JAPAN	ETSI
Fujitsu Limited. **(Fujitsu Limited.)**	JAPAN	TTC
Fujitsu Limited.. **(Fujitsu Limited..)**	JAPAN	ARIB
Futurewei **(Futurewei Technologies Inc.)**	UNITED STATES	ETSI
Futurewei Technologies **(Futurewei Technologies)**	UNITED STATES	ATIS
G+D MS **(Giesecke+Devrient Mobile Security Germany GmbH)**	GERMANY	ETSI
Gatehouse Satcom A/S **(Gatehouse Satcom A/S)**	DENMARK	ETSI
GDCNI **(Guangdong Communications and Networks Institute)**	CHINA	CCSA
GE Network Technologies, LLC **(GE Network Technologies, LLC)**	UNITED STATES	ATIS
GEESPACE **(ZHE JIANG GEESPACE TECHNOLOGY CO., LTD.)**	CHINA	CCSA
Gigaset Technologies **(Gigaset Technologies GmbH)**	GERMANY	ETSI
Gilat **(Gilat Satellite Networks Ltd)**	ISRAEL	ETSI
GIST **(Gwangju Institute of Science and Technology)**	KOREA (REPUBLIC OF)	TTA
GLOBALSTAR Inc. **(GLOBALSTAR Inc.)**	UNITED STATES	ETSI
GM - ATCI **(General Motors - ATCI)**	ISRAEL	ETSI
Google Ireland Limited **(Google Ireland Limited)**	IRELAND	ETSI
Group 2000 **(Group 2000 Nederland B.V.)**	NETHERLANDS	ETSI
GTRC **(Georgia Tech Research Corporation)**	UNITED STATES	ETSI
GUANGDONG GENIUS TECHNOLOGY CO **(GUANGDONG GENIUS TECHNOLOGY CO., LTD.)**	CHINA	CCSA
Guangdong OPPO Mobile Telecom. **(Guangdong OPPO Mobile Telecommunications Corp., Ltd)**	CHINA	CCSA
GW **(Greenerwave)**	FRANCE	ETSI
HA/ST **(HARTING Stiftung & Co. KG)**	GERMANY	ETSI
Hangzhou Mengyuxiang **(Hangzhou Mengyuxiang Network Technology Corp., Ltd.)**	CHINA	CCSA
Harman GmbH **(Harman Becker Automotive Systems GmbH)**	GERMANY	ETSI
HEAD acoustics GmbH **(HEAD acoustics GmbH)**	GERMANY	ETSI
Hewlett-Packard Enterprise **(Hewlett-Packard Enterprise)**	FRANCE	ETSI
HiSilicon Technologies Co. Ltd	CHINA	CCSA

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(HiSilicon Technologies Co.Ltd)		
HISPASAT SA **(HISPASAT SA)**	SPAIN	ETSI
HOME OFFICE **(HOME OFFICE)**	UNITED KINGDOM	ETSI
Honda Motor Co., Ltd **(Honda Motor Co., Ltd)**	JAPAN	ARIB
Honor **(Honor Device Co., Ltd.)**	CHINA	CCSA
Honor **(Honor Device Co., Ltd)**	CHINA	ETSI
HTC Communications Co., Ltd. **(HTC Communications Co., Ltd.)**	CHINA	CCSA
Huawei Device Co., Ltd **(Huawei Device Co., Ltd)**	CHINA	CCSA
HUAWEI TECH. GmbH **(HUAWEI TECHNOLOGIES Duesseldorf GmbH)**	GERMANY	ETSI
Huawei Tech.(UK) Co.. Ltd **(Huawei Technologies (UK) Co., Ltd.)**	UNITED KINGDOM	ETSI
Huawei Technologies (Korea) **(Huawei Technologies (Korea))**	KOREA (REPUBLIC OF)	TTA
HUAWEI TECHNOLOGIES Co. Ltd. **(Huawei Technologies Co. Ltd.)**	CHINA	ETSI
HuaWei Technologies Co., Ltd **(HuaWei Technologies Co., Ltd)**	CHINA	CCSA
Huawei Technologies France **(Huawei Technologies France)**	FRANCE	ETSI
Huawei Technologies Japan K.K. **(Huawei Technologies Japan K.K.)**	JAPAN	TTC
HUAWEI Technologies Japan K.K. **(HUAWEI Technologies Japan K.K.)**	JAPAN	ARIB
Huawei Technologies R&D UK **(Huawei Technologies Research & Development (UK) Limited)**	UNITED KINGDOM	ETSI
Huawei Technologies Sweden AB **(Huawei Technologies Sweden AB)**	SWEDEN	ETSI
Huawei Telecommunication India **(Huawei Telecommunication (India) Co. Pvt. Ltd.)**	INDIA	TSDSI
Husqvarna AB **(Husqvarna AB (publ))**	SWEDEN	ETSI
Hytera Communications Corp. **(Hytera Communications Corporation Limited)**	CHINA	CCSA
Hyundai Motor Company **(Hyundai Motor Company)**	KOREA (REPUBLIC OF)	TTA
IBM Europe **(IBM Europe)**	GERMANY	ETSI
ICS **(Institute for Communication Systems - University of Surrey)**	UNITED KINGDOM	ETSI
IDEMIA **(IDEMIA)**	FRANCE	ETSI
IDRBT **(Institute for Development and Research in Banking Technology)**	INDIA	TSDSI
III **(Institute for Information Industry)**	TAIWAN, PROVINCE OF CHINA	ETSI
IIIT Bangalore **(International Institute of Information Technology - Bangalore)**	INDIA	TSDSI
IIIT Naya Raipur **(International Institute of Information Technology, Naya Raipur)**	INDIA	TSDSI
IISc, Bangalore **(Indian Institute of Science, Bangalor)**	INDIA	TSDSI
IIT Bhilai **(Indian Institute of Technology Bhilai)**	INDIA	TSDSI
IIT Bombay **(Indian Institute of Technology Bombay)**	INDIA	TSDSI
IIT Delhi **(Indian Institute of Technology Delhi)**	INDIA	TSDSI
IIT Gandhinagar	INDIA	TSDSI

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(Indian Institute of Technology Gandhinagar)		
IIT JODHPUR **(Indian Institute of Technology Jodhpur)**	INDIA	TSDSI
IIT Kanpur **(Indidan Institute of Technology Kanpur)**	INDIA	TSDSI
IIT Mandi **(Indian Institute of Technology Mandi)**	INDIA	TSDSI
IIT Patna **(Indian Institute of Technology Patna)**	INDIA	TSDSI
IIT, Kharagpur **(IIT, Kharagpur)**	INDIA	TSDSI
IMDA **(Infocomm Media Development Authority)**	SINGAPORE	ETSI
Imperial College London **(Imperial College of Science Technology and Medicine)**	UNITED KINGDOM	ETSI
IMU **(Istanbul Medipol University)**	TÜRKIYE	ETSI
Indian Institute of Tech (H) **(Indian Institute of Technology Hyderabad)**	INDIA	TSDSI
Indian Institute of Tech (M) **(Indian Institute of Technology Madras)**	INDIA	TSDSI
INFINEON TECHNOLOGIES **(Infineon Technologies)**	GERMANY	ETSI
Inmarsat **(Inmarsat)**	UNITED KINGDOM	ETSI
Institut Mines-Telecom **(Institut Mines-Telecom)**	FRANCE	ETSI
Institute VEDECOM **(Institute VEDECOM)**	FRANCE	ETSI
Intel **(Intel)**	UNITED STATES	ATIS
Intel Belgium SA/NV **(Intel Belgium SA/NV)**	BELGIUM	ETSI
Intel China Ltd. **(Intel China Ltd.)**	CHINA	CCSA
Intel Corporation (UK) Ltd **(Intel Corporation (UK) Ltd)**	UNITED KINGDOM	ETSI
Intel Corporation Italia SpA **(Intel Corporation Italia SpA)**	ITALY	ETSI
Intel Corporation SAS **(Intel Corporation SAS)**	FRANCE	ETSI
Intel Deutschland GmbH **(Intel Deutschland GmbH)**	GERMANY	ETSI
Intel Ireland **(Intel Ireland Ltd)**	IRELAND	ETSI
Intel Sweden AB **(Intel Sweden AB)**	SWEDEN	ETSI
Intel Technology India Pvt Ltd **(Intel Technology India Pvt. Ltd.)**	INDIA	TSDSI
Intel Technology Poland SP Zoo **(Intel Technology Poland SP Zoo)**	POLAND	ETSI
Intellian Technologies **(Intellian Technologies)**	KOREA (REPUBLIC OF)	TTA
Intelsat **(Intelsat)**	UNITED STATES	ATIS
InterDigital Belgium. LLC **(InterDigital Belgium, LLC)**	BELGIUM	ETSI
InterDigital Canada **(InterDigital Canada)**	CANADA	ATIS
InterDigital Communications **(InterDigital Communications Corporation)**	UNITED STATES	ATIS
InterDigital Finland Oy **(InterDigital Finland Oy)**	FINLAND	ETSI
InterDigital France R&D, SAS **(InterDigital France R&D, SAS)**	FRANCE	ETSI
InterDigital New York	UNITED STATES	ATIS

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(InterDigital New York)		
InterDigital Pennsylvania **(InterDigital Pennsylvania)**	UNITED STATES	ATIS
InterDigital, Europe, Ltd. **(InterDigital, Europe, Ltd.)**	UNITED KINGDOM	ETSI
InterDigital, Inc. **(InterDigital, Inc.)**	UNITED STATES	ETSI
Intersec **(Intersec SA)**	FRANCE	ETSI
Intertek **(Intertek)**	UNITED KINGDOM	ETSI
IPCom GmbH & Co.KG **(IPCom GmbH & Co.KG)**	GERMANY	ETSI
IPLOOK **(IPLOOK Networks Co., Ltd.)**	CHINA	CCSA
iQoo **(iQoo Software Technology (Shanghai) Co., Ltd.)**	CHINA	CCSA
Iridium Satellite LLC **(Iridium Satellite LLC)**	UNITED STATES	ATIS
IRT Saint Exupery **(Institut de recherche technologique Saint Exupery)**	FRANCE	ETSI
ISED **(Innovation, Science and Economic Development Canada)**	CANADA	ETSI
ISRO **(Indian Space Research Organisation)**	INDIA	TSDSI
ISSDU **(Information Security Service Digital United Inc.)**	TAIWAN, PROVINCE OF CHINA	ETSI
ITL **(Innovative Technology Lab Co., Ltd)**	KOREA (REPUBLIC OF)	TTA
ITOCHU Techno-Solutions Corp **(ITOCHU Techno-Solutions Corporation)**	JAPAN	TTC
ITRI **(Industrial Technology Research Institute)**	TAIWAN, PROVINCE OF CHINA	ETSI
ITRON SAS **(ITRON SAS)**	FRANCE	ETSI
Ittiam System Pvt Ltd **(Ittiam System Pvt Ltd)**	INDIA	TSDSI
Japan Radio Co., Ltd **(Japan Radio Co., Ltd)**	JAPAN	ARIB
Jetflow **(Jetflow Technologies Co., Ltd)**	CHINA	CCSA
Jio **(Jio Estonia OÜ)**	ESTONIA	ETSI
JMA Wireless **(JMA Wireless)**	UNITED STATES	ATIS
John Deere GmbH & Co. KG **(John Deere GmbH & Co. KG)**	GERMANY	ETSI
Johns Hopkins University APL **(Johns Hopkins University Applied Physics Laboratory)**	UNITED STATES	ATIS
JSI GmbH **(JSI GmbH)**	GERMANY	ETSI
Juniper Networks **(Juniper Networks)**	UNITED STATES	ETSI
KAIST **(Korea Advanced Institute of Science and Technology)**	KOREA (REPUBLIC OF)	TTA
Kapsch TrafficCom AG **(Kapsch TrafficCom AG)**	AUSTRIA	ETSI
KDDI Corporation **(KDDI Corporation)**	JAPAN	TTC
KDDI Corporation **(KDDI Corporation)**	JAPAN	ARIB
Kepler **(Kepler Communications GmbH)**	GERMANY	ETSI
Keysight Technologies UK Ltd **(Keysight Technologies UK Ltd)**	UNITED KINGDOM	ETSI
KIPO	KOREA (REPUBLIC OF)	TTA

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(Korean Intellectual Property Office)		
Kontron Transportation France **(Kontron Transportation France S.A.S)**	FRANCE	ETSI
Korea Testing Laboratory **(Korea Testing Laboratory)**	KOREA (REPUBLIC OF)	TTA
Korea University **(Korea University)**	KOREA (REPUBLIC OF)	TTA
KPN N.V. **(Koninklijke KPN N.V.)**	NETHERLANDS	ETSI
KRRI **(Korea Railroad Research Institute)**	KOREA (REPUBLIC OF)	TTA
KT Corp. **(KT Corporation)**	KOREA (REPUBLIC OF)	TTA
Kymeta Corporation **(Kymeta Corporation)**	UNITED STATES	ETSI
Kyocera Corporation **(Kyocera Corporation)**	JAPAN	ARIB
Kyonggi University **(Kyonggi University)**	KOREA (REPUBLIC OF)	TTA
Kyoto University **(Kyoto University)**	JAPAN	ETSI
L.M. Ericsson Limited **(L.M. Ericsson Limited)**	IRELAND	ETSI
L3Harris Technologies **(L3Harris Technologies)**	UNITED STATES	ATIS
Langbo **(Shanghai Langbo Communication Technology Co., Ltd.)**	CHINA	CCSA
Lansus **(Lansus Technologies Inc.)**	CHINA	CCSA
LEGRAND FRANCE **(LEGRAND FRANCE ISERE)**	FRANCE	ETSI
Lekha Wireless Solutions **(Lekha Wireless Solutions Pvt Ltd)**	INDIA	TSDSI
Lenovo (Beijing) Ltd **(Lenovo (Beijing) Ltd)**	CHINA	CCSA
Lenovo Future Communications **(Lenovo Future Communications Technology (Chongqing) Co., Ltd.)**	CHINA	CCSA
Lenovo Information Technology **(Lenovo (Beijing) Information Technology Co., Ltd.)**	CHINA	CCSA
Leonardo SpA **(Leonardo SpA)**	ITALY	ETSI
LG Electronics Deutschland **(LG Electronics Deutschland GmbH)**	GERMANY	ETSI
LG Electronics Finland **(LG Electronics Finland Lab Oy)**	FINLAND	ETSI
LG Electronics France **(LG Electronics France)**	FRANCE	ETSI
LG Electronics Inc. **(LG Electronics Inc.)**	KOREA (REPUBLIC OF)	TTA
LG Electronics Polska **(LG Electronics Polska Sp. z.o.o.)**	POLAND	ETSI
LG Electronics UK **(LG Electronics UK Ltd)**	UNITED KINGDOM	ETSI
LG Uplus **(LG Uplus)**	KOREA (REPUBLIC OF)	TTA
Ligado Networks **(Ligado Networks)**	UNITED STATES	ETSI
LKA Niedersachsen **(Landeskriminalamt Niedersachsen)**	GERMANY	ETSI
Lockheed Martin **(Lockheed Martin)**	UNITED STATES	ATIS
Logius **(Logius)**	NETHERLANDS	ETSI
Lynk Global **(Lynk Global)**	UNITED STATES	ATIS
Magister Solutions Ltd	FINLAND	ETSI

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(Magister Solutions Ltd)		
Maketh Secure Limited **(Maketh Secure Limited)**	UNITED KINGDOM	ETSI
Marquis Technologies **(Marquis Technologies Pvt Ltd)**	INDIA	TSDSI
MATRIXX Software **(MATRIXX Software, Inc.)**	UNITED STATES	ETSI
Mavenir **(Mavenir Systems, Inc)**	UNITED STATES	ETSI
MaxWave Micro **(MaxWave Microelectronics Ltd.)**	CHINA	CCSA
MediaTek (Chengdu) Inc. **(MediaTek (Chengdu) Inc.)**	CHINA	CCSA
MediaTek (Hefei) Inc. **(MediaTek (Hefei) Inc.)**	CHINA	CCSA
MediaTek (Shenzhen) Inc. **(MediaTek (Shenzhen) Inc.)**	CHINA	CCSA
MediaTek (Wuhan) Inc. **(MediaTek (Wuhan) Inc.)**	CHINA	CCSA
MediaTek Beijing Inc. **(MediaTek Beijing Inc.)**	CHINA	CCSA
MediaTek Finland **(MediaTek Wireless Finland Oy)**	FINLAND	ETSI
MediaTek Germany GmbH **(MediaTek Germany GmbH)**	GERMANY	ETSI
MediaTek Inc. **(MediaTek Incorporated)**	TAIWAN, PROVINCE OF CHINA	ETSI
Mediatek India Technology Pvt. **(Mediatek India Technology Pvt. Ltd.)**	INDIA	TSDSI
MediaTek Korea Inc. **(MediaTek Korea Inc.)**	KOREA (REPUBLIC OF)	TTA
MediaTek Sweden AB **(MediaTek Sweden AB)**	SWEDEN	ETSI
MediaTek UK **(MTK Wireless Ltd)**	UNITED KINGDOM	ETSI
MeitY **(Ministry of Electronics & Information Technology)**	INDIA	TSDSI
Meizu Technology **(Meizu Technology)**	CHINA	CCSA
Mercedes-Benz AG **(Mercedes-Benz AG)**	GERMANY	ETSI
Mesaqin.com s.r.o (Ltd.) **(Mesaqin.com s.r.o (Ltd.))**	CZECH REPUBLIC	ETSI
Meta India **(Meta India Online Services Pvt Ltd)**	INDIA	TSDSI
Meta Ireland **(Meta Platforms Ireland Ltd.)**	IRELAND	ETSI
Meta USA **(Meta USA)**	UNITED STATES	ATIS
Microchip Technology, Inc. **(Microchip Technology, Inc.)**	UNITED STATES	ATIS
Microsoft Europe SARL **(Microsoft Europe SARL)**	FRANCE	ETSI
MidWave Wireless **(MidWave Wireless)**	UNITED STATES	ATIS
MIMIT **(Ministry of Enterprises and Made in Italy)**	ITALY	ETSI
MinEA **(Ministry of Economic Affairs and Climate Policy)**	NETHERLANDS	ETSI
MINISTERE DE L'INTERIEUR **(MINISTERE DE L'INTERIEUR)**	FRANCE	ETSI
Ministère Economie et Finances **(Ministère de l'Economie et des Finances)**	FRANCE	ETSI
Ministry for Digital - Spain **(Ministry for Digital Transformation and of Civil Service)**	SPAIN	ETSI
Ministry of Transport SR	SLOVAKIA	ETSI

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(Ministry of Transport of the Slovak Republic)		
MITRE Corporation **(MITRE Corporation)**	UNITED STATES	ETSI
MITRE-FFRDC **(MITRE-FFRDC)**	UNITED STATES	ATIS
Mitsubishi Electric Co. **(Mitsubishi Electric Co.)**	JAPAN	ARIB
Mitsubishi Electric Corp **(Mitsubishi Electric Corporation)**	JAPAN	TTC
Mitsubishi Electric RCE **(Mitsubishi Electric R&D Centre Europe)**	FRANCE	ETSI
Motorola Mobile Com Technology **(MOTOROLA MOBILE COMMUNICATION TECHNOLOGY LTD.)**	CHINA	CCSA
Motorola Mobility España SA **(Motorola Mobility España SA)**	SPAIN	ETSI
Motorola Mobility France S.A.S **(Motorola Mobility France S.A.S)**	FRANCE	ETSI
Motorola Mobility Germany GmbH **(Motorola Mobility Germany GmbH)**	GERMANY	ETSI
Motorola Mobility UK Ltd. **(Motorola Mobility UK Ltd.)**	UNITED KINGDOM	ETSI
Motorola Solutions Germany **(Motorola Solutions Germany GmbH)**	GERMANY	ETSI
Motorola Solutions UK Ltd. **(Motorola Solutions UK Ltd.)**	UNITED KINGDOM	ETSI
MTCC **(Mobile Technology Convergence Center)**	KOREA (REPUBLIC OF)	TTA
Murata Manufacturing Co Ltd. **(Murata Manufacturing Co Ltd.)**	JAPAN	ARIB
MVG Industries **(MVG Industries)**	FRANCE	ETSI
Nanjing vivo Software Tech. **(Nanjing vivo Software Technology Co., Ltd.)**	CHINA	CCSA
Nanjing Weibo **(Nanjing Weibo Software Technology Co., Ltd.)**	CHINA	CCSA
National Instruments Corp. **(National Instruments Corporation)**	UNITED STATES	ETSI
National Radio Research Agency **(National Radio Research Agency)**	KOREA (REPUBLIC OF)	TTA
National Spectrum Consortium **(National Spectrum Consortium)**	UNITED STATES	ATIS
National Technical Assistance **(National Technical Assistance Centre)**	UNITED KINGDOM	ETSI
nbn co Limited **(nbn co Limited (ABN 86 136 533 741))**	AUSTRALIA	ETSI
NCI Agency **(NATO Communication and Information Agency)**	NETHERLANDS	ETSI
NCIS **(National Criminal Investigation Service)**	NORWAY	ETSI
NCSC **(National Cyber Security Centre)**	UNITED KINGDOM	ETSI
NDRE **(National Defence Radio Establishment)**	SWEDEN	ETSI
NEC Corporation **(NEC Corporation)**	JAPAN	ARIB
NEC Corporation **(NEC Corporation)**	JAPAN	ETSI
NEC Corporation. **(NEC Corporation)**	JAPAN	TTC
NEC Europe Ltd **(NEC Europe Ltd)**	UNITED KINGDOM	ETSI
NEC Telecom MODUS Ltd. **(NEC Telecom MODUS Ltd.)**	UNITED KINGDOM	ETSI
NEMERGENT **(NEMERGENT SOLUTIONS SL)**	SPAIN	ETSI
NERCDTV	CHINA	CCSA

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(Shanghai National Engineering Research Center of Digital Television Co.,Ltd.)		
Netherlands Police **(Netherlands Police, Division MDC)**	NETHERLANDS	ETSI
Netscout Systems Inc. **(Netscout Systems Inc.)**	UNITED STATES	ETSI
Network Rail **(Network Rail infrastructure limited)**	UNITED KINGDOM	ETSI
New H3C Technologies Co., Ltd. **(New H3C Technologies Co., Ltd.)**	CHINA	CCSA
NextNav **(NextNav)**	UNITED STATES	ATIS
NHK **(NHK (Japan Broadcasting Corporation))**	JAPAN	ARIB
NICT **(National Institute of Information and Communications Technology)**	JAPAN	ARIB
Niral **(Niral Networks Private Limited)**	INDIA	TSDSI
NIST **(National Institute of Standards and Technology)**	UNITED STATES	ATIS
Nkom **(Norwegian Communications Authority)**	NORWAY	ETSI
Nokia **(Nokia)**	UNITED STATES	ATIS
Nokia Belgium **(Nokia Bell N.V.)**	BELGIUM	ETSI
Nokia Corporation **(Nokia Corporation)**	FINLAND	ETSI
Nokia Denmark **(Nokia Denmark A/S)**	DENMARK	ETSI
Nokia France **(Nokia Networks France)**	FRANCE	ETSI
Nokia Germany **(Nokia Solutions and Networks GmbH & Co. KG)**	GERMANY	ETSI
Nokia Hungary **(Nokia Solutions and Networks Kft.)**	HUNGARY	ETSI
Nokia Japan **(Nokia Japan)**	JAPAN	ARIB
Nokia Korea **(Nokia Korea)**	KOREA (REPUBLIC OF)	TTA
Nokia Poland **(Nokia Solutions and Networks Sp. z.o.o.)**	POLAND	ETSI
Nokia Shanghai Bell **(Nokia Shanghai Bell Co., Ltd)**	CHINA	CCSA
Nokia Solutions & Networks (I) **(Nokia Solutions and Networks India Pvt. Ltd.)**	INDIA	TSDSI
Nokia UK **(Nokia UK Ltd.)**	UNITED KINGDOM	ETSI
Nordic Semiconductor ASA **(Nordic Semiconductor ASA)**	NORWAY	ETSI
NOVAMINT **(NOVAMINT)**	UNITED KINGDOM	ETSI
NTIA **(National Telecommunications and Information Administration)**	UNITED STATES	ATIS
NTPU **(National Taipei University)**	TAIWAN, PROVINCE OF CHINA	ETSI
NTT **(Nippon Telegraph and Telephone Corporation (NTT))**	JAPAN	TTC
NTT corporation **(Nippon Telegraph and Telephone Corporation)**	JAPAN	ETSI
NTT DOCOMO INC. **(NTT DOCOMO INC.)**	JAPAN	TTC
NTT DOCOMO INC.. **(NTT DOCOMO INC.)**	JAPAN	ARIB
NTT-AT Corp. **(NTT Advanced Technology Corporation)**	JAPAN	TTC
NTU	TAIWAN, PROVINCE OF CHINA	ETSI

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(National Taiwan University)		
Nubia Technology Co.,Ltd **(Nubia Technology Co.,Ltd)**	CHINA	CCSA
NUFRONT **(Nufront (Beijing) Technology Co., Ltd.)**	CHINA	CCSA
NVIDIA **(NVIDIA Corporation)**	UNITED STATES	ATIS
NXP Semiconductors Netherlands **(NXP Semiconductors Netherlands B.V.)**	NETHERLANDS	ETSI
NYCU **(National Yang Ming Chiao Tung University)**	TAIWAN, PROVINCE OF CHINA	ETSI
Obvios **(Obvios)**	FRANCE	ETSI
Odido **(Odido Netherlands B.V.)**	NETHERLANDS	ETSI
Ofcom (CH) **(Ofcom (CH))**	SWITZERLAND	ETSI
Ofcom (U.K.) **(Ofcom - Office of Communications (U.K.))**	UNITED KINGDOM	ETSI
Oki Electric Industry Co. Ltd. **(OKi Electric Industry Co., Ltd)**	JAPAN	TTC
Omnispace **(Omnispace)**	UNITED STATES	ATIS
ONE Media 3.0 LLC **(ONE Media 3.0 LLC)**	UNITED STATES	ATIS
one2many B.V. **(one2many B.V.)**	NETHERLANDS	ETSI
OnePlus **(OnePlus (Shenzhen) Technology Co., LTD)**	CHINA	CCSA
OPPO **(Guangdong OPPO Mobile Telecommunications Corp.,Ltd.)**	CHINA	ETSI
OPPO (chongqing) Intelligence **(OPPO (chongqing) Intelligence Technology Limited)**	CHINA	CCSA
OPPO Beijing **(Beijing OPPO Telecommunications Corp., ltd.)**	CHINA	CCSA
OptM Media **(OptM Media Solutions Private Limited)**	INDIA	TSDSI
OQTEC **(OQ TECHNOLOGY)**	LUXEMBOURG	ETSI
Oracle Corporation **(Oracle Corporation)**	UNITED STATES	ETSI
Orange **(Orange)**	FRANCE	ETSI
Orange Romania **(Orange Romania)**	ROMANIA	ETSI
Orange Spain **(France Telecom España S.A.U.)**	SPAIN	ETSI
Orange UK **(Orange Brand Services Ltd)**	UNITED KINGDOM	ETSI
ORS **(Österreichische Rundfunksender GmbH & Co KG)**	AUSTRIA	ETSI
OTD_US **(OTD_US)**	UNITED STATES	ATIS
OTE S.A **(OTE S.A)**	GREECE	ETSI
P.I. WORKS **(P.I. WORKS TR BILISIM HIZMETLERI A.S.)**	TÜRKIYE	ETSI
Pairpoint **(DABCO Ltd)**	UNITED KINGDOM	ETSI
Panasonic Holdings Corporation **(Panasonic Holdings Corporation)**	JAPAN	ARIB
PANASONIC R&D Center Germany **(PANASONIC R&D Center Germany GmbH)**	GERMANY	ETSI
PCCW Global B.V. **(PCCW Global B.V.)**	FRANCE	ETSI
Peking University	CHINA	CCSA

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(Peking University)		
Pengcheng laboratory **(Pengcheng laboratory)**	CHINA	CCSA
Peraton Labs **(Peraton Labs)**	UNITED STATES	ATIS
Philips International B.V. **(Philips International B.V.)**	NETHERLANDS	ETSI
PHY Wireless **(PHY Wireless)**	UNITED STATES	ATIS
PIDS **(PIDS)**	NETHERLANDS	ETSI
Plan-S **(Plan S Uydu ve Uzay Teknolojileri A.S)**	TÜRKIYE	ETSI
PML **(Purple Mountain Laboratories: Networking, Communications and Security)**	CHINA	CCSA
Polaris Wireless **(Polaris Wireless)**	UNITED STATES	ATIS
Polisen **(Polismyndigheten)**	SWEDEN	ETSI
POST Luxembourg **(POST Luxembourg)**	LUXEMBOURG	ETSI
Prasar Bharati **(Prasar Bharati)**	INDIA	TSDSI
Proximus Plc **(Proximus Plc)**	BELGIUM	ETSI
PSCE **(Public Safety Communication Europe Forum)**	BELGIUM	ETSI
PT PORTUGAL SGPS SA **(PT Portugal SGPS SA)**	PORTUGAL	ETSI
PTS **(Swedish Post and Telecom Authority)**	SWEDEN	ETSI
Public Safety Canada **(Public Safety Canada)**	CANADA	ETSI
Qihoo 360 **(Qihoo 360 Technology Co., Ltd.)**	CHINA	CCSA
Qorvo **(Qorvo)**	UNITED STATES	ETSI
Qualcomm Austria RFFE GmbH **(Qualcomm Austria RFFE GmbH)**	AUSTRIA	ETSI
QUALCOMM Europe Inc. - Italy **(QUALCOMM Europe Inc. - Italy Branch Office)**	ITALY	ETSI
QUALCOMM Europe Inc. - Spain **(QUALCOMM Europe Inc. - Spain Branch Office)**	SPAIN	ETSI
Qualcomm Finland RFFE Oy **(Qualcomm Finland RFFE Oy)**	FINLAND	ETSI
Qualcomm France **(Qualcomm France SARL)**	FRANCE	ETSI
Qualcomm Germany **(Qualcomm Germany GmbH)**	GERMANY	ETSI
Qualcomm Incorporated **(Qualcomm Incorporated)**	UNITED STATES	ATIS
Qualcomm India Pvt Ltd **(Qualcomm India Pvt Ltd)**	INDIA	TSDSI
QUALCOMM JAPAN LLC. **(QUALCOMM JAPAN LLC.)**	JAPAN	ARIB
Qualcomm Korea **(Qualcomm Korea)**	KOREA (REPUBLIC OF)	TTA
Qualcomm Tech. Netherlands B.V **(Qualcomm Technologies Netherlands B.V.)**	NETHERLANDS	ETSI
Qualcomm Technologies Int **(Qualcomm Technologies International, Ltd)**	UNITED KINGDOM	ETSI
Qualcomm Technologies Ireland **(QT Technologies Ireland Limited)**	IRELAND	ETSI
Quanray **(Shanghai Quanray Electronics Co., Ltd.)**	CHINA	CCSA
Quectel	CHINA	CCSA

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(Quectel Wireless Solutions Co., Ltd.)		
RadiSys **(RadiSys Inc.)**	CANADA	ETSI
Rakuten Mobile, Inc **(Rakuten Mobile, Inc)**	JAPAN	ARIB
RATEL **(Regulatory Authority For Electronic Communications and Postal Services)**	SERBIA	ETSI
Realme (Shenzhen) **(Realme Mobile Telecommunications (Shenzhen) Co., Ltd.)**	CHINA	CCSA
Reflection B.V. **(Reflection Investment B.V.)**	NETHERLANDS	ETSI
Reliance Jio **(Reliance Jio)**	INDIA	TSDSI
RICHTEK KOREA **(RICHTEK KOREA)**	KOREA (REPUBLIC OF)	TTA
RISE **(RISE Research Institutes of Sweden)**	SWEDEN	ETSI
ROBERT BOSCH GmbH **(ROBERT BOSCH GmbH)**	GERMANY	ETSI
Rogers Communications Canada **(Rogers Communications Canada Inc.)**	CANADA	ETSI
ROHDE & SCHWARZ **(ROHDE & SCHWARZ GmbH & Co.KG)**	GERMANY	ETSI
Ruijie Network Co. Ltd **(Ruijie Network Co. Ltd)**	CHINA	CCSA
SageRAN **(Guangdong Sageran Technology Co., Ltd)**	CHINA	CCSA
SAICT **(Shenzhen Academy of Information and Communication Technology)**	CHINA	CCSA
Samsung Electronics Co., Ltd **(Samsung Electronics Co., Ltd.)**	KOREA (REPUBLIC OF)	TTA
Samsung Electronics Czech **(Samsung Electronics Czech)**	CZECH REPUBLIC	ETSI
Samsung Electronics France SA **(Samsung Electronics France SA)**	FRANCE	ETSI
Samsung Electronics GmbH **(Samsung Electronics GmbH)**	GERMANY	ETSI
Samsung Electronics Iberia SA **(Samsung Electronics Iberia SA)**	SPAIN	ETSI
Samsung Electronics Nordic AB **(Samsung Electronics Nordic AB)**	SWEDEN	ETSI
Samsung Electronics Polska **(Samsung Electronics Polska)**	POLAND	ETSI
Samsung Guangzhou Mobile R&D **(Samsung Guangzhou Mobile R&D Center)**	CHINA	CCSA
Samsung Nanjing **(Samsung Electronic (China) R&D Center)**	CHINA	CCSA
Samsung R&D Institute India **(Samsung R&D Institute India - Bangalore Pvt. Ltd)**	INDIA	TSDSI
SAMSUNG R&D INSTITUTE JAPAN **(SAMSUNG R&D INSTITUTE JAPAN)**	JAPAN	ARIB
Samsung R&D Institute UK **(Samsung R&D Institute UK)**	UNITED KINGDOM	ETSI
Samsung Research America **(Samsung Research America)**	UNITED STATES	ATIS
Samsung Shenzhen **(Samsung Network R&D Center-Shenzhen)**	CHINA	CCSA
Sanechips **(Sanechips Technology Co. , Ltd.)**	CHINA	CCSA
Sateliot **(Satelio IoT Services)**	SPAIN	ETSI
Schindler **(Schindler Elevator Ltd)**	SWITZERLAND	ETSI
SDI Squared **(SDI Squared LLC)**	UNITED STATES	ETSI
Sectra Communications AB	SWEDEN	ETSI

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(Sectra Communications AB)		
Security Service **(Swedish Security Service)**	SWEDEN	ETSI
Semtech Neuchatel SA **(Semtech Neuchatel SA)**	SWITZERLAND	ETSI
Sennheiser electronic SE **(Sennheiser electronic SE & Co. KG)**	GERMANY	ETSI
Sensus UK **(Sensus UK Systems Limited)**	UNITED KINGDOM	ETSI
Sepura Ltd **(Sepura Limited)**	UNITED KINGDOM	ETSI
Sequans Communications **(Sequans Communications)**	FRANCE	ETSI
SES S.A. **(SES S.A.)**	LUXEMBOURG	ETSI
SETS **(Society for Electronic Transactions and Security)**	INDIA	TSDSI
SEU **(Southeast University)**	CHINA	CCSA
SGDSN **(Secrétariat Général de la Défense et de la Sécurité Nationale (SGDSN))**	FRANCE	ETSI
SGITG **(State Grid Information & Telecommunication Group Co., Ltd.)**	CHINA	CCSA
SGS Wireless **(SGS Wireless)**	UNITED KINGDOM	ETSI
Shanghai Chen Si Electronics **(Shanghai Chen Si Electronics Technology Co., Ltd)**	CHINA	CCSA
Shanghai Jiao Tong University **(Shanghai Jiao Tong University)**	CHINA	CCSA
Shanghai Tejet Com Technology **(Shanghai Tejet Communications Technology Co., Ltd.)**	CHINA	CCSA
SHARP Corporation **(SHARP Corporation)**	JAPAN	ARIB
Shenzhen Heytap **(Shenzhen Heytap Technology Corp.,Ltd.)**	CHINA	CCSA
ShenZhen Zhongxing Shitong **(ShenZhen Zhongxing Shitong Tech. Co.,Ltd.)**	CHINA	CCSA
SIA **(Shenyang Institute of Automation, Chinese Academy of Sciences)**	CHINA	CCSA
Siemens AG **(Siemens AG)**	GERMANY	ETSI
Signalchip Innovations Pvt. **(Signalchip Innovations Pvt. Ltd.)**	INDIA	TSDSI
SIST **(Slovenian Institute for Standardisation)**	SLOVENIA	ETSI
Sisvel **(Sisvel International S.A.)**	LUXEMBOURG	ETSI
SK Telecom **(SK TELECOM)**	KOREA (REPUBLIC OF)	TTA
SKY Perfect JSAT Corporation **(SKY Perfect JSAT Corporation)**	JAPAN	ARIB
Skylo Technologies **(Skylo Technologies)**	UNITED STATES	ATIS
Skyworks Solutions Inc. **(Skyworks Solutions Inc.)**	UNITED STATES	ETSI
Smart Internet Lab **(Smart Internet Lab, University of Bristol)**	UNITED KINGDOM	ETSI
SmarterMicro Inc. **(Smarter Microelectronics(Guangzhou) Co.,Ltd)**	CHINA	CCSA
SnT - University of Luxembourg **(Interdisciplinary Centre for Security, Reliability and Trust/University of Luxembourg)**	LUXEMBOURG	ETSI
SoftBank Corp. **(SoftBank Corp.)**	JAPAN	ARIB
Softel Systems **(Softel Systems Pty Ltd)**	AUSTRALIA	ETSI
Softil Ltd	ISRAEL	ETSI

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(Softil Ltd)		
Sony Corporation **(Sony Corporation)**	JAPAN	ARIB
Sony Europe B.V. **(Sony Europe B.V.)**	UNITED KINGDOM	ETSI
Sony Group Corporation **(Sony Group Corporation)**	JAPAN	ARIB
Sooktha Consulting Pvt Ltd **(Sooktha Consulting Pvt Ltd)**	INDIA	TSDSI
Soongsil University **(Soongsil University)**	KOREA (REPUBLIC OF)	TTA
SOS Alarm **(SOS Alarm Sverige AB)**	SWEDEN	ETSI
Southern Linc. **(Southern Linc.)**	UNITED STATES	ATIS
Southwest Jiaotong university **(Southwest Jiaotong university)**	CHINA	CCSA
SpaceX **(SpaceX Netherlands B.V)**	NETHERLANDS	ETSI
Spark NZ Ltd **(Spark NZ Ltd)**	NEW ZEALAND	ATIS
Spirent Communications **(Spirent Communications)**	UNITED STATES	ETSI
Sporton International Inc **(Sporton International Inc.)**	TAIWAN, PROVINCE OF CHINA	ETSI
Spreadtrum Communications **(Spreadtrum Communications (Shanghai) Co., Ltd.)**	CHINA	CCSA
SRTC **(The State Radio_monitoring_center Testing Center)**	CHINA	CCSA
SS8 **(SS8 Networks Inc.)**	UNITED STATES	ETSI
SSNS **(Special Service for the National Security of Hungary)**	HUNGARY	ETSI
Starpoint **(Beijing Starpoint Technology Company Limited)**	CHINA	CCSA
STE IDIRECT IRELAND LTD **(ST ENGINEERING IDIRECT (IRELAND) LIMITED)**	IRELAND	ETSI
STMicroelectronics **(STMicroelectronics International NV)**	SWITZERLAND	ETSI
Sumitomo Elec. Industries, Ltd **(Sumitomo Electric Industries, Ltd.)**	JAPAN	ARIB
SUNGKYUNKWAN UNIVERSITY **(SUNGKYUNKWAN UNIVERSITY)**	KOREA (REPUBLIC OF)	TTA
SUTD **(Singapore University of Technology and Design)**	SINGAPORE	ETSI
Swift Navigation **(Swift Navigation)**	UNITED STATES	ATIS
SWISSCOM **(SWISSCOM SA)**	SWITZERLAND	ETSI
SWR **(Südwestrundfunk)**	GERMANY	ETSI
SyncTechno Inc. **(SyncTechno Inc.)**	KOREA (REPUBLIC OF)	TTA
Syniverse **(M/s Syniverse Technologies Services India Pvt. Ltd.)**	INDIA	TSDSI
TA **(Tantra Analyst)**	UNITED STATES	ETSI
Tait Europe Limited **(Tait Europe Limited)**	AUSTRIA	ETSI
TATA Communications Ltd **(TATA Communications Ltd)**	INDIA	TSDSI
Tata Elxsi Limited. **(Tata Elxsi Limited.)**	INDIA	TSDSI
TCL **(Shenzhen TCL New Technology Company Ltd.)**	CHINA	CCSA
TCS	INDIA	TSDSI

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(TATA Consultancy Services)		
TD Tech Ltd **(TD Tech Ltd)**	CHINA	CCSA
TDF **(TDF SAS)**	FRANCE	ETSI
Tech Mahindra Limited **(Tech Mahindra Limited)**	INDIA	TSDSI
Tejas Network Limited **(Tejas Network Limited)**	INDIA	TSDSI
Tektronix GmbH **(Tektronix GmbH)**	GERMANY	ETSI
TELECOM ITALIA S.p.A. **(Telecom Italia S.p.A.)**	ITALY	ETSI
Telefonica Germany GmbH **(Telefónica Germany GmbH & Co OHG)**	GERMANY	ETSI
TELEFONICA S.A. **(TELEFONICA S.A.)**	SPAIN	ETSI
Telekom Deutschland GmbH **(Telekom Deutschland GmbH)**	GERMANY	ETSI
TELENOR ASA **(Telenor ASA)**	NORWAY	ETSI
Telesat International Limited **(Telesat International Limited)**	UNITED KINGDOM	ETSI
Telia Company AB **(Telia Company AB)**	SWEDEN	ETSI
Telit Communications S.p.A. **(Telit Communications S.p.A.)**	ITALY	ETSI
Telstra Limited **(Telstra Limited)**	AUSTRALIA	ETSI
TELUS **(TELUS)**	CANADA	ATIS
Tencent **(Shenzhen city Tencent computer system Co. Ltd.)**	CHINA	CCSA
Tencent Cloud **(Tencent cloud computing Beijing Co., Ltd)**	CHINA	CCSA
Teradyne **(Teradyne)**	UNITED STATES	ATIS
TerreStar Solutions Inc. **(TerreStar Solutions Inc.)**	CANADA	ATIS
Texas A&M University **(Texas A&M University)**	UNITED STATES	ETSI
TEXAS Instruments **(Texas Instruments France)**	FRANCE	ETSI
THALES **(THALES)**	FRANCE	ETSI
THURAYA TELECOM CO. **(THURAYA TELECOMMUNICATIONS COMPANY)**	UNITED ARAB EMIRATES	ETSI
Tiami Networks **(Tiami Networks)**	UNITED STATES	ATIS
TII **(Technology Innovation Institute)**	UNITED ARAB EMIRATES	ETSI
T-Mobile Austria GmbH **(T-Mobile AUSTRIA GmbH)**	AUSTRIA	ETSI
T-Mobile Polska S.A. **(T-Mobile Polska Spolka Akcyjna)**	POLAND	ETSI
T-Mobile USA **(T-Mobile USA, Inc.)**	UNITED STATES	ETSI
T-Mobile USA Inc. **(T-Mobile USA Inc.)**	UNITED STATES	ATIS
TNO **(TNO)**	NETHERLANDS	ETSI
Tomorrow's Creation Labs **(Tomorrow's Creation Labs)**	JAPAN	ARIB
Tongji University **(Tongji University)**	CHINA	CCSA
Toshiba	UNITED KINGDOM	ETSI

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(Toshiba)		
TOWE Wireless **(Sushi TOWE Wireless Testing (Shenzhen) Co.,Ltd.)**	CHINA	ETSI
TOYOTA Info Technology Center **(TOYOTA Info Technology Center USA, Inc.)**	UNITED STATES	ETSI
TOYOTA MOTOR CORPORATION **(TOYOTA MOTOR CORPORATION)**	JAPAN	TTC
TRAFICOM **(The Finnish Transport and Communications Agency)**	FINLAND	ETSI
Trafikverket **(Trafikverket)**	SWEDEN	ETSI
Transsion Holdings **(Transsion Holdings)**	CHINA	CCSA
TransUnion **(TransUnion)**	UNITED STATES	ATIS
Trimble **(Trimble)**	UNITED STATES	ATIS
Tron Future Tech Inc. **(Tron Future Tech Inc.)**	TAIWAN, PROVINCE OF CHINA	ETSI
TTP plc **(TTP plc)**	UNITED KINGDOM	ETSI
Turk Telekomunikasyon A.S. **(Turk Telekomunikasyon A.S.)**	TÜRKIYE	ETSI
TURKCELL **(Turkcell Iletisim Hizmetleri A.S.)**	TÜRKIYE	ETSI
U.S. Department of Defense **(U.S. Department of Defense)**	UNITED STATES	ATIS
U.S. Department of Transport. **(U.S. Department of Transportation)**	UNITED STATES	ATIS
U.S. National Security Agency **(US National Security Agency)**	UNITED STATES	ATIS
Uangel **(Uangel Corporation)**	KOREA (REPUBLIC OF)	TTA
Ubiik **(Ubiik SAS)**	FRANCE	ETSI
ubinexus **(Beijing Ubinexus Technology Development Co., Ltd)**	CHINA	CCSA
u-blox AG **(u-blox AG)**	SWITZERLAND	ETSI
UESTC **(University of Electronic Science and Technology of China)**	CHINA	CCSA
UL VS Ltd **(UL VS Ltd)**	UNITED KINGDOM	ETSI
UMA **(Universidad de Malaga)**	SPAIN	ETSI
umlaut **(umlaut communications GmbH)**	GERMANY	ETSI
UNIBO **(ALMA MATER STUDIORUM Università di Bologna)**	ITALY	ETSI
UniBw M **(University of the Bundeswehr Munich)**	GERMANY	ETSI
Unicom Broadband Online **(Unicom Broadband Online Co., Ltd.)**	CHINA	CCSA
Unicompay **(Unicompay Co., Ltd.)**	CHINA	CCSA
Union Inter. Chemins de Fer **(Union Internationale des Chemins de Fer)**	FRANCE	ETSI
Union Telephone Company **(Union Telephone Company)**	UNITED STATES	ATIS
Unisoc **(Unisoc (Shanghai) Technologies Co., Ltd.)**	CHINA	CCSA
Unisoc Beijing **(Beijing Unisoc Communications Technology Co., Ltd.)**	CHINA	CCSA
UPV/EHU **(Universidad del País Vasco/Euskal Herriko Unibertsitatea)**	SPAIN	ETSI
US Cellular Corporation.	UNITED STATES	ATIS

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(US Cellular Corporation/TDS.)		
US DHS Science & Technology **(US DHS Science & Technology)**	UNITED STATES	ATIS
UTIMACO TS GmbH **(UTIMACO TS GmbH)**	GERMANY	ETSI
UTokyo **(The University of Tokyo)**	JAPAN	ETSI
Vaan Megam **(Vaan Megam Networks)**	INDIA	TSDSI
Valeo **(Valeo Telematik und Akustik GmbH)**	GERMANY	ETSI
VALID SOLUCIONES TECNOLÓGICAS **(VALID SOLUCIONES TECNOLÓGICAS S.A.U)**	SPAIN	ETSI
Valid8 **(Valid8.com, Inc.)**	UNITED STATES	ETSI
Vanchip **(Vanchip (Tianjin) Technology Co., Ltd.)**	CHINA	CCSA
Verizon Denmark **(Verizon Denmark A/S)**	DENMARK	ETSI
Verizon Finland **(Verizon Finland Oy)**	FINLAND	ETSI
Verizon France **(Verizon France SAS)**	FRANCE	ETSI
Verizon Netherlands **(Verizon Nederland B.V)**	NETHERLANDS	ETSI
Verizon Spain **(Verizon Spain S.L.)**	SPAIN	ETSI
Verizon Sweden **(Verizon Sweden Aktiebolag 2116)**	SWEDEN	ETSI
Verizon Switzerland AG **(Verizon Switzerland AG)**	SWITZERLAND	ETSI
Verizon UK Ltd **(Verizon UK Ltd)**	UNITED KINGDOM	ETSI
Vestel **(Vestel Elektronik Sanayi ve Ticaret A.S)**	TÜRKIYE	ETSI
ViaSat Satellite Holdings Ltd **(ViaSat Satellite Holdings Ltd)**	UNITED KINGDOM	ETSI
VIAVI Solutions **(Viavi Solutions UK Ltd.)**	UNITED KINGDOM	ETSI
vivo Mobile Com. (Chongqing) **(vivo Mobile Communication (Chongqing) Co., Ltd)**	CHINA	CCSA
vivo Mobile Communication (H) **(vivo Mobile Communication (Hangzhou) Co., Ltd.)**	CHINA	CCSA
vivo Mobile Communication (S) **(vivo Mobile Communication (Shenzhen) Co., Ltd.)**	CHINA	CCSA
vivo Mobile Communication Co., **(vivo Mobile Communication Co., Ltd)**	CHINA	CCSA
vivo Software Technology **(vivo Software Technology (Xi'an) Co., Ltd.)**	CHINA	CCSA
VIVO TECH GmbH **(VIVO TECH GmbH)**	GERMANY	ETSI
vivo Wisdom Technology **(vivo Wisdom Technology Co., Ltd.)**	CHINA	CCSA
Vodafone GmbH **(Vodafone GmbH)**	GERMANY	ETSI
VODAFONE Group Plc **(Vodafone Group Plc)**	UNITED KINGDOM	ETSI
Vodafone Ireland Plc **(Vodafone Ireland Plc)**	IRELAND	ETSI
Vodafone Italia SpA **(Vodafone Italia SpA)**	ITALY	ETSI
Vodafone Romania S.A. **(Vodafone Romania S.A.)**	ROMANIA	ETSI
Vodafone Telekomünikasyon A.S. **(Vodafone Telekomünikasyon A.S.)**	TÜRKIYE	ETSI
VoiceAge Corporation	CANADA	ETSI

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(VoiceAge Corporation)		
Volkswagen AG **(Volkswagen AG)**	GERMANY	ETSI
VSENS **(Unicom Vsens Telecommunications Co., Ltd)**	CHINA	CCSA
VTT **(VTT Technical Research Centre of Finland)**	FINLAND	ETSI
WE Certification Oy **(WE Certification Oy)**	FINLAND	ETSI
Wiliot Ltd. **(Wiliot Ltd.)**	ISRAEL	ETSI
WILUS Inc. **(WILUS Inc.)**	KOREA (REPUBLIC OF)	TTA
Wipro **(Wipro Limited)**	INDIA	TSDSI
Wipro GE **(Wipro GE Healthcare Private Limited)**	INDIA	TSDSI
Wisig Networks Pvt Ltd **(Wisig Networks Pvt Ltd)**	INDIA	TSDSI
Wuhan Hongxin Technology **(Wuhan Hongxin Technology Development Co., Ltd.)**	CHINA	CCSA
XGN **(XGen Network LLC)**	UNITED STATES	ETSI
Xiamen Sanan Integr. Circuit **(Xiamen Sanan Integrated Circuit Co., Ltd.)**	CHINA	CCSA
Xiaomi Communications **(Xiaomi Communications)**	CHINA	CCSA
Xiaomi Digital Technology **(Beijing Xiaomi Digital Technology Co., Ltd.)**	CHINA	CCSA
Xiaomi Electronic Software **(Beijing Xiaomi Electronic Software Co., Ltd.)**	CHINA	CCSA
Xiaomi EV Technology **(Xiaomi EV Technology Co., Ltd.)**	CHINA	CCSA
Xiaomi Technology **(Xiaomi Technology)**	CHINA	CCSA
Xiaomi Technology (Polska) sp. **(XIAOMI TECHNOLOGY (POLSKA) SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA)**	POLAND	ETSI
Xiaomi Technology France **(Xiaomi Technology France)**	FRANCE	ETSI
Xiaomi Technology Germany GmbH **(Xiaomi Technology Germany GmbH)**	GERMANY	ETSI
Xiaomi Technology Italy srl **(Xiaomi Technology Italy srl)**	ITALY	ETSI
Xiaomi Technology Netherlands **(Xiaomi Technology Netherlands B.V.)**	NETHERLANDS	ETSI
Xiaomi Technology Spain S.L **(Xiaomi Technology Spain S.L)**	SPAIN	ETSI
Xiaomi Technology UK Limited **(Xiaomi Technology UK Limited)**	UNITED KINGDOM	ETSI
Xidian University **(Xidian University)**	CHINA	CCSA
Xilinx Ireland **(Xilinx Ireland)**	IRELAND	ETSI
XNET **(ZGC Institute of Ubiquitous-X Innovation and Applications)**	CHINA	ETSI
X-Net **(ZGC Institute of Ubiquitous-X Innovation and Applications)**	CHINA	CCSA
Yonsei University **(Yonsei University)**	KOREA (REPUBLIC OF)	TTA
Zhejiang Lab **(Zhejiang Lab)**	CHINA	CCSA
Zhejiang University **(Zhejiang University)**	CHINA	CCSA
ZITiS **(Central Office for Information Technology in the Security Sector)**	GERMANY	ETSI
Zollkriminalamt (ZKA)	GERMANY	ETSI

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(Zollkriminalamt (ZKA))		
ZONSON **(ZONSON SAMRT AUTO CORPORATION)**	CHINA	CCSA
ZTE **(ZTE Telecom India Pvt Ltd)**	INDIA	TSDSI
ZTE Corporation **(ZTE Corporation)**	CHINA	CCSA
ZTE Corporation **(ZTE Corporation)**	CHINA	ETSI
ZTE Deutschland **(ZTE Deutschland GmbH)**	GERMANY	ETSI
ZTE FRANCE SASU **(ZTE FRANCE SASU)**	FRANCE	ETSI
ZTE Italia **(ZTE Italia S.R.L)**	ITALY	ETSI
ZTE JAPAN K.K. **(ZTE JAPAN K.K..)**	JAPAN	TTC
ZTE Japan K.K. **(ZTE Japan K.K.)**	JAPAN	ARIB
ZTE Korea Limited **(ZTE Korea Limited)**	KOREA (REPUBLIC OF)	TTA
ZTE Photonics **(ZTE Photonics Technology Co.,Ltd.)**	CHINA	CCSA
ZXNE **(ZXNE CORPORATION)**	CHINA	CCSA

Total : 827 Individual Members

Any comments or problems with this application? Please let us know...

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APPENDIX 10

The Wayback Machine - https://web.archive.org/web/20051225051904/http://www.3gpp.org:80/faq/faq_2005_2.htm

3GPP Frequently Asked Questions

1. Membership | 2. Mailing Lists | 3. Legal Matters | 4. Specifications | 5. Technical Specification Group/Working Group | | 6. Documents and Meetings | 7. Miscellaneous

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7.4 Can you give me information about which companies manufacture particular types of equipment. Or about what services are available on particular networks?

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ANSWERS

1. Membership

1.1 Who can become an Individual Member of 3GPP and how much does it cost ?

Individual Members are by definition members of the Organizational Partners of 3GPP. This means that members of standardization bodies such as ETSI, ARIB, TTA, TTC, T1 and CCSA have a right to take part in 3GPP. There are no fees payable directly to 3GPP. However, the funds required for the running of 3GPP are collected from the Organizational Partners and you may be required to contribute in some way through that route.

If you are not a member of one of the above Standardization bodies then you can find links to these bodies from the 3GPP home page.

If you require further guidance on how to participate in 3GPP activities you should contact the Mobile Competence Centre.

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1.2 Who may participate in 3GPP meetings ?

To attend a 3GPP meeting, you must be a 3GPP Individual Member (i.e. you must be a Member of one of the Organizational Partners involved in the project; ARIB, CCSA, ETSI, T1, TTA or TTC. A non-member company should seek membership with one of the above partners to be eligible to contribute and participate at 3GPP Meetings.

1.3 Who shall fill in the 3GPP Individual Member Application form ?

The person legally responsible for the requesting company shall fill in the form.

1.4 What shall I do if a 3GPP company or official contact details change?

All changes of correspondence should be notified to 3GPPContact@etsi.org

1.5 Different membership categories ?

The different membership categories of 3GPP are described in Section B of the 3GPP Working Procedures.

1.6 Who may become an observer ?

1.7 Who may become a Guest Member and do guests have to pay any fees ?

The Guest Status is for potential Individual Members who may be granted permission to participate in 3GPP for a maximum period of 6 months. Guest status is granted on a case-by-case basis by the Organizational Partners (see also Working Procedures Article 10). If you like to apply for a Guest status, please send an email to 3GPPContact@etsi.org

No membership fees are requested for Guest applications.

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1.8 Who can apply for market representative Partnership?

1.9 Can an ETSI Observer become an Individual Member of 3GPP ?

NO, an ETSI Observer may "observe" all activities, but their participation is limited to the ETSI General Assembly only. Therefore, ETSI Observers have no participation rights in 3GPP. ETSI Observers have access to ETSI documentation and of course to 3GPP documentation since that is openly published on the web.

3GPP does have it's own category called "Observer" but that is entirely different and is used for potential Partners.

1.10 Can an ETSI Applicant apply for 3GPP Membership ?

YES, an Applicant means that your request to become an ETSI Member will be approved at the next General Assembly. You can participate in 3GPP as soon as the ETSI application has been processed and you are flagged as a Candidate Member (i.e. there is no need to wait until the next GA).

1.11 My company is already an ETSI Member, what do I have to do to join 3PP and do I have to pay any fees ?

As an ETSI member your company is eligible for a 3GPP Individual Membership and you will be able to attend any of the 3GPP Meetings. Please fill in the on-line 3GPP Application form and your company will be then listed on the 3GPP Website (add link to the form)

There are currently no additional costs involved for participation in 3GPP (the membership fees for ETSI covers the cost of 3GPP participation).

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2. 3GPP email exploder lists

2.1 Are there discussion archives for the 3GPP exploder lists ?

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The home page of listserv is at: http://list.3gpp.org/scripts/wa.exe

Then, just follow the links to the archives. For example, the archives for the main RAN email list can be found at:

http://list.3gpp.org/archives/3gpp_tsg_ran.html

2.2 How do I subscribe to the 3GPP exploder lists ?

follow the instructions found on this page: http://www.3gpp.org/Discussion_Lists/mailing.htm

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3. Legal Matters

3.1 What is the 3GPP IPR Policy ?

The 3GPP Organizational Partners have agreed that their IPR policies should be respected and that their respective members should be encouraged to declare "their willingness to grant licenses on fair reasonable terms and conditions and on non discriminatory basis" (Article 3.1 of the Third Generation Partnership Project). For more information Look Here >>>

The above-mentioned principles are further reflected in Article 55 of the 3GPP Technical Working Procedures which request that each Individual Members should declare "at the earliest opportunity, any IPR which they believe to be essential, or potentially essential, to any work ongoing within 3GPP".

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3.2 What is the 3GPP policy on licensing ?

Some aspects of 3GPP systems are covered by essential Intellectual Property Rights (IPR) - that is, patented technologies without which equipment cannot be implemented. The IPR vests in - i.e. the patents are held by - individual companies, and not by 3GPP itself or any of its Organizational Partners (OPs). All Individual Members of 3GPP abide by the IPR policies of the OP to which they belong; all such policies are broadly similar (see FAQ 3.1), and require IPR holders to make licences available to all third parties, whether or not they are 3GPP Individual Members, under fair, reasonable and non-discriminatory (FRAND) terms.

Neither 3GPP nor its component OPs offer an IPR search service. It is the responsibility of each manufacturer / system implementor to seek and obtain its own licences from the individual IPR holders.

For more information, and a guide to the IPRs declared to each 3GPP OP, look here >>>

(Answer drafted 2005-09-12 by JMM.)

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3.3 What is the 3G Patent Platform ?

On the fringe of standardization activities some telecom companies have set up a voluntary arrangement for the licensing of essential patents required to meet the standards published for 3G systems has emerged.

Please find a historical recap of the creation of the 3G Patent Platform. Thank you to note that Phase 3 has not started yet.

1. Discussions started in the UMTS IPR working Group (1998).

2. The UMTS IPR working group operated within the UIAP (UMTS Intellectual Property Association) to define the functions of the 3G Patent Platform.

The 3G Patent Platform will provide services for:

- - Evaluating,
- - Certifying and,
- - Licensing

essential patents for 3G Mobile communications.

3. Implementation of the 3G Patent Platform scheme.

The 3G Patent Platform will operate within a new profit service company governed by the members (essential patent holders and licensees). As of today this NEW CO is not operational since it is waiting for the approval of the US/EC/Japanese competition law authorities in order to launch the above-described activities.

More information is to be found at http://www.3gpatents.com/

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3.4 Is it true that a number 3GPP members are looking at setting up a patents cooperative, with the aim of reducing the royalties they pay each other for the use of patented technology in third-generation mobile systems ?

- Discussion started in the UMTS IPR working Group (1998),
- Creation of the UIAP (UMTS Intellectual Property Association) which has performed the function of the definition the 3G Patent Platform scheme (Evaluation of a patent, certification of essentiality, licensing arrangements, etc.) and which is the legal owner of the 3G Patent Platform Specification.
- Implementation of the scheme:

As of today NEW CO (implementing the 3G Patent Platform) has not be incorporated and the Patent Platform scheme is not operational as it is awaiting for the approval of the US/EC competition law authorities.

ETSI follows the development of the 3G Patent Platform but, as a neutral standard body, cannot take an active participation in this market initiative.

3.5 Who owns the Technical Specifications and the Technical Reports approved by 3GPP ?

According to the Article 3.2.2 of the Third Generation Partnership Project Agreement, the 3GPP Organizational Partners jointly own copyright on the Technical Specifications and the Technical Reports approved by 3GPP.

3.6 Does a company implementing a product based on the 3GPP specifications have to pay any royalties to the 3GPP organization ?

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The Third Generation Partnership Project is not a legal entity but a Partnership Project between different standardization organizations in the field of telecommunications.

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3.7 Is permission needed to use the 3GPP logo in marketing collaterals or on a web site ?

ETSI (European Telecommunications Standards Institute) is the sole owner of the following acronyms:

- ETSI,
- DECT,
- UMTS,
- 3GPP and
- TIPHON,

as well as the ETSI, TIPHON and 3GPP logos. ETSI Members shall use these Trade Marks in accordance with Collective Letter 1943. Authorization is needed to use the above mentioned acronyms and logos.

For further information please contact : 3GPP Legal

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3.8 Can I use computer code included with a 3GPP TS to implement a product ?

Yes. Some 3GPP Technical Specifications include computer code such as ASN.1 or XML (protocols), C language (codecs), ...; and some include test patterns (codecs) for verifying implementations. These are published to allow users of these TSs to implement real-world products. No permission is required from 3GPP or its Organizational Partners (OPs) to use this code in the design of products - e.g. to compile the C to implement a codec in machine code.

Nevertheless, there may be essential IPR involved with such a design, and implementors are obliged to seek licences to use that technology. See FAQ 3.2.

Moreover, the copyright of all 3GPP TSs and TRs vests jointly by all the 3GPP OPs. Other than for in-house copies for the purpose of further development of the 3GPP standard or for product design purposes, etc. you may not reproduce any part of a 3GPP TS or TR without seeking permission: use the form available here. This means that you must not provide verbatim copies of *source* code (or lightly modified copies) without seeking permission from 3GPP.

Finally, you are reminded that 3GPP TSs and TRs have no legal status, and you should not design products directly to them. See the advice notice on the cover page of every 3GPP TS and TR. Instead, use the technically identical publication of one of the OPs.

(Answer drafted 2005-09-12 by JMM.)

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4. Specifications

4.1 Where can the rules, protocols or software needed to develop applications for UMTS be found ?

A good place to start is on the 3GPP website http://www.3gpp.org, and particularly the specifications list at http://www.3gpp.org/specs/specs.htm.

Look at the titles of the specs for those which are appropriate. Perhaps 21.111, 31.102 and 31.111 might be relevant.

4.2 What is the correlation between Stage 1, Stage 2 (GSM 3.90 and GSM 02.90) and Phase 1, Phase 2 ?

The "stage" nomenclature was an ancient CCITT invention, related to ISDN standardisation. "Stage 1" refers to the service description from a service-user's point of view. "Stage 2" is a logical analysis, breaking the problem down into functional elements and the information flows amongst them. "Stage 3" is the concrete implementation of the protocols between physical elements onto which the functional elements have been mapped.

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4.3 Is there any simple guide to the different CAMEL specifications ?

Unfortunately there is no single document acting as a guide to the CAMEL standards. Initial plans were published in ETSI ETR 244 in 1995, though this is so old as to be more or less useless now. GSM 10.78 is the CAMEL project plan, and this is probably the best thing. This may have been available as a temp doc to SMG meeting no. 25, but is still only in draft form, and has never been made publicly available.

In the SS7 arena,

GSM 02.78 / UMTS 22.078 is the Stage 1 (requirements) document.

GSM 03.78 / UMTS 23.078 is the Stage 2 (functions, conceptual data flow)

GSM 09.78 / UMTS 29.078 is the Stage 3 (protocol) - CAMEL Application Part (CAP)

CAP has been released in several phases:

Release 1996 = Phase 1

Release 1997 = Phase 2

Release 1998 = Phase 2

Release 1999 = Phase 3 (GSM and UMTS common spec)

For UMTS, 21.978 is a feasibility study on CAMEL control of Voice over IP.

In the Intelligent Network area, CAMEL is an extension of Core INAP, under the control of ETSI SPAN3 (formerly SPS3) - ignore for simplicity the Stage 1 and Stage 2 specifications, which were under ETSI SPAN6 (formerly NA6). Core INAP was released in sevaral phases:

CS1 = ETS 300 374 series,

CS2 = EN 301 140 series,

CS3 = EN 301 931 series.

It had originally been intended to split CS3 into two releases, and also to produce a CS4. These plans now seem to be on hold. Tthe ETSI phasing of the various Capability Sets was not strictly aligned with the ITU-T "equivalents", and this was a source of some confusion. For further information, see

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contact : spansupport@etsi.org Very recently, SPAN has been reorganised, and SPAN3's work is now to be found within SPAN12.

IN CAMEL phase 1 is an enhancement of Core INAP CS1. The protocol is defined in the ETSI EN 301 152 series, which is a "delta" to ETS 300 374, and assumes a CAP according to GSM 09.78 v5.5.x (Phase 2+, Release 1996). IN CS3 includes CAMEL aspects (which were ignored for IN CS2).

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4.4 Where are the specifications which identify the Vcc voltages for the SIM interface ?

3V and 1.8 V SIMs for GSM are specified in GSM 11.12 (phase 2) and GSM 11.18 (release 98) respectively.
However, in 3GPP we have developed a new specification (3G TS 31.101) which combines the physical/electrical/logical aspects of GSM 11.11, GSM 11.12 and GSM 11.18 into a single specification. The electrical and physical aspects have not really been changed compared to the GSM specification mentioned above (the logical and security aspects have been enhanced). It is recommended that you use this new specification as the basis for any new work.

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4.5 Are the 3GPP specifications produced only in word ?

The 3GPP specs are published as ETSI deliverables, and these are available in PDF from http://www.etsi.org/key. But you can download a free Word viewer (ie read only) from the Microsoft web site. PDF is inherently secure (more so than html, in fact), and because WordViewer is very simple (it can not handle macros, for example), it is pretty safe too.

ETSI has no plans at present to publish specifications in plain text or in html.

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4.6 Which group works with specifications covering the use of the GSM codec (either in C or Java based) ?

The SMG11 and 3GPP SA4 specifications available from http://www.3gpp.org respectively deal with this. It gives you a list of specifications via the status list (look for the GSM specs in the MS-Access database at :
and you can then download the specs you need. If you do not have an ETSI EOL account, you can download the ETSI equivalent standards from http://www.etsi.org/key .

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4.7 Does the ETSI GSM standard document collection also include GSM standard documents produced by the GSM Association and exactly what kind of GSM standards does ETSI produce ?

The GSM specifications were originally started in committee GSM of CEPT. There (as "CEPT Recommendations") they were allocated a reference number of the form nn.nn, for example GSM 06.12. Even after transfer to ETSI about ten years ago, the GSM community (in Technical Committee SMG) continue to use these spec identifiers.

The specifications are grouped into 'Releases'. The original specifications were published by ETSI in 1994 and are now known as 'Phase 1'. The next release was known as 'Phase 2', and the next one as ... 'Phase 2+'. Within Phase 2+, there have been annual releases since 1996, which are known as R96, R97, R98 and R99. You can find the specifications on the SMG file server http://docbox.etsi.org/tech-org/smg/Document/smg/specs/ grouped into directories by Release. (You need an account on the ETSI server to have access to this directory.) Looking at a spec, you can tell which release it belongs to by the version number:

version release

3.x.x	Phase 1
4.x.x	Phase 2
5.x.x	Phase 2+, R96
6.x.x	Phase 2+, R97
7.x.x	Phase 2+, R98
8.x.x	Phase 2+, R99

There will (probably) not be a Release 2000, since the work has been subsumed by the third generation specifications under 3GPP.

All (nearly) the specs of all releases are published as ETSI deliverables, and most have undergone several revisions in each release. In order to match a GSM spec number and version with the corresponding ETSI deliverable, you should go to http://www.etsi.org/key/ .

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4.8 Where would I find a document (e.g. UMTS 30.03 version 3.1.0) which does not appear on the 3GPP Status List?

Look at http://docbox.etsi.org/tech-org/smg/Document/smg/specs/UMTS/3003_320.zip but, an ETSI server account is needed to access this. It is a document stemming from the initial TC-SMG studies on UMTS, not a product of 3GPP. It was, in fact, published as an ETSI deliverable, TR 101 112, and this may be downloaded via http://pda.etsi.org/pda.

In general, the cross-referencing between GSM and ETSI deliverables, and between 3GPP and ETSI deliverables may be found at http://www.etsi.org/key

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4.9 Where are all the Change Requests (CRs) located ?

The information on CRs is available via the 3GPP website at this address:

http://www.3gpp.org/ftp/Specs/html-info/

The information is classed by series so it is very easy to locate the particular specification which interests you.

If, for example, you are looking for CRs on GSM 08.18 then you would use this link:

http://www.3gpp.org/ftp/Specs/html-info/0818-CRs.htm

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4.10 Where are all the current ETSI SMG specs located ?

The latest GSM status database located at

http://docbox.etsi.org/zarchive/smg/.

An ETSI account is needed to access this directory.

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4.11 Which group works on the W-CDMA and the Physical Layer of W-CDMA ?

The radio aspects are standardised in TSG-RAN. The technical work is done in the 4 Working Groups of RAN (WG1 radio layer 1, WG2 radio layer 2/3, WG3 interfaces, WG4 RF measurements). I'd say you are interested in TSG-RAN WG1 then. Their specifications are numbered 25.2xx.
The temporary documents (meeting documents etc.) of WG1 are stored on ftp://ftp.3gpp.org/TSG_RAN/WG1_RL1 and the latest specifications (December 99) are or will be provided on ftp://ftp.3gpp.org/Specs/December_99/25_series.

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4.12 Where can I find the list of Abstract syntax notation (ASN.1) object identifiers?

The expandable list of object identifiers is available here >>>. To see the formal definition of the object identifiers, see the document cited on the right. The tree is not necessarily complete; further extensions may be included in the referenced document. For more information look here >>>

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4.13 Where can I find the 3GPP Confidentiality and Integrity algorithms?

The 3GPP Confidentiality and Integrity algorithms F8 & F9 (KASUMI) have been developed through the collaborative efforts of the 3GPP Organizational Partners. For more information and in order to download the algorithms look here >>>

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4.14 What is a Release - how does specification version numbering work?

To meet new market requirements, 3GPP specifications are continually being enhanced with new features. In order to provide developers with a stable platform for implementation while at the same time allowing the addition of new features, the 3GPP uses a system of parallel "releases". For more information look here >>>

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4.15 Where can I find information on the current status of 3GPP specifications?

New versions of many 3GPP specifications are made available shortly after the 3GPP TSG plenary meetings which take place four times a year (March, June, September and December). In order to identify what the current version is or and how to find information about older versions of specifications look here >>>.

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4.16 What is the system for numbering specifications? Which specifications contain information on specific topics ?

All 3G and GSM specifications have a 3GPP specification number consisting of 4 or 5 digits. (e.g. 09.02 or 29.002). For a more complete description and examples look here >>>

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5. Technical Specification Group/Working Group

5.1 Who are the TSG/WG Officials and Support team and Where can I find their contact details?

Each TSG/WG has a Chairman, up to two Vice-Chairmen, a secretary and a member of the support team (officials).

Who are the other members of the TSG/WG?

Active participant lists are maintained by the TSGs. Any member attending a meeting will be added to the TSG/WG active participants list, and may be removed after not attending 3 or more consecutive meetings (see Article 35 of 3GPP Working Procedures).

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5.2 Where can I find the Terms of Reference for my TSG/WG?

The current Terms of Reference for each TSG/WG appear on the web pages of each TSG/WG.

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5.3 When did the Officials begin their Term of Office?

The four Technical Specification Groups (TSGs) have elected their 3GPP TSG officials at the Fort Lauderdale (FL) meeting in March.

The meeting reports for each TSG/WG will indicate the election/re-election/resignation of an official. A complete list of TSG/WG officials is available on the 3GPP web site.

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5.4 May I become an Official?

The TSG Chairman and Vice Chairmen are elected by the Technical Specification Group from amongst the Individual Member representatives. Each TSG can elect a maximum of two Vice Chairmen. Once elected, these candidates are proposed to the PCG for appointment.

The Working Group Chairman and Vice Chairmen are elected by the Working Group from amongst the Individual Member representatives. Each Working Group can elect a maximum of two Vice Chairmen.

A candidate for TSG or Working Group election shall provide a letter of support from his Organization and nominations may be made up to the point when an election takes place.

The TSG Chairman and Vice-Chairmen shall be appointed by the PCG on the proposal of the TSG.

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The Chairman and the Vice-Chairmen shall be appointed for a two year term of office. The Chairman and Vice-Chairmen may be appointed for one further consecutive term. If, at the end of a Chairman or Vice Chairmans second term, no other candidates are available, the Chairman or Vice Chairmen may be appointed for a further term.

Chairman and Vice Chairmen should not be from the same region, Organizational Partner, or from the same group of companies, unless no other candidate is available.

Successive Chairmen should not be from the same Organizational Partner, the same region or from the same group of companies, unless no other candidate is available

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5.5 Where are my TSG/WGs documents stored?

Each TSG/WG has a specific area allocated on the 3GPP ftp server.

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5.6 Is the ETSI Secretariat responsible for the management of the Application Provider Codes for 3GPP ?

The ETSI secretariat does not actually allocate these number - unique number are obtained by the coding scheme that is defined in 31.110. Application identifiers for consist of two parts - a RID and a PIX.

The RID is simple: ISO/IEC have allocated the number 'A000000087' to the 3GPP. This was allocated to ETSI on behalf of the 3GPP.

The coding of the PIX is specified in annex B of 31.110. There are three different sorts of PIX:

- 3G UICC,
- 3G USIM, and
- 3G USIM toolkit

Each of these requires the use of the "Card issuer code" as defined in ITU-T recommendation E.118 [3]. This is a unique code given to each card issuer (for example, each GSM operator in the world has requested a card issuer code). So, any 3G operator that does not have a 2G system that uses SIMs will have to apply to the ITU-T in accordance with the procedures in E.118.

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6. Documents and TSG/WG Meetings

6.1 How do I register for a meeting?

If you are a TSG/WG member you will receive information about forthcoming meetings via the e-mail exploder. This will indicate the path on the ftp server where the invitation and related documents may be found. You may also consult the Meetings area on the 3GPP Web where the latest invitations of each TSG/WG are stored together with the calendar of meetings.

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6.2 How do I submit a contribution for a meeting?

Each meeting invitation will contain details of how to register contributions for that meeting and who to send your contributions to.

6.3 How do I obtain a document number for my contribution?

Each meeting invitation will contain details of how to register contributions for that meeting and who to send your contributions to.

6.4 Where can I download documents for an upcoming meeting?

Each meeting invitation will contain details of where the documents are stored for the meeting. It is advisable for delegates attending a meeting to download the documents available prior to the meeting from the ftp server and onto their personal computers.

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6.5 Where can I find a temporary document template?

The document template is made available by each TSG/WG in the meeting respective folder on the ftp server.

6.6 What happens if I am unable to attend a meeting?

You should contact your chairman and the meeting host indicating when you will be absent.

Work Items and Deliverables

6.7 What is my role when my TSG/WGs has to approve a deliverable?

Approval of Technical Specifications and Technical reports by a TSG shall normally be by consensus.

Where consensus cannot be achieved in the TSG a vote may be taken.

When Technical Specifications and Technical Reports become sufficiently stable, they shall be put under change control of the relevant TSG. The further elaboration of these Technical Specifications and Technical Reports shall be achieved by Change Requests (CRs) to be approved by the TSG.

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6.8 What are the different types of deliverables?

3GPP shall prepare, approve and maintain documents known as Technical Specifications and Technical Reports. Such documents shall be drawn up by the TSGs and shall, following approval at that level, be submitted to the participating Organizational Partners to be submitted to their respective standardization processes.

6.9 Can I write an 3GPP Document myself?

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Why not?! If you wish to propose a deliverable then bring it to the attention of your chairman and the other members of the TSG/WG in order to discuss the subject.

Each proposed new Work Item shall be supported by at least four Individual Members, and their names shall be recorded in the Work Item definition prepared for the TSG approval. One or more persons shall be named as Rapporteur for the proposed Work Item, and the Rapporteur shall act as the prime contact point on technical matters and for information on progress throughout the drafting phases.The supporting Individual Members are expected to contribute to and progress the new work item throughout the drafting phases.

In addition to the above, TSGs shall approve new Work Items, giving all essential parameters. The proposal shall be entered into the 3GPP work programme, clearly marked as a new entry, for which a unique reference identity shall be allocated.

6.10 Do I and my company have to support my TSG/WGs Work Items?

Neither you or your company is obliged to support the work items of your TSG/WG, however it is normal that if you and your company are supporting members of a Work Item that you be in agreement with their work and will normally support the production of the related deliverable.

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7. Miscellaneous

7.1 How do I resolve the problem with the corrupt file warning in MSWord. Note that this only applies to MSWord2000?

Problem:
When opening a document in Word 2000, the following error message appears: This document may be corrupt. To preserve the contents: Choose Select All from the Edit menu, then choose Copy from the Edit menu. Create a new document, then choose Paste from the Edit menu.

Cause:
This may be related to something called list templates. A list template is created for every numbering or bulleting scheme defined in the document. Apparently, a minor change in a scheme, or even switching a list from numbered to bulleted creates a new template. In an arcane way, tables are also related to list templates. The template count increases automatically, but cannot be decreased by the user. When more than 1500 templates are defined in the list, the document becomes corrupt. There are more reasons why a document is corrupt, so the fix proposed will not solve the problem 100% of the times.

Resolution:

- To solve the problem, you need to have MS Office 2000 Service Release 1/1a installed . To check this, in Word on the "Help" menu point to "About Microsoft Word". The first line in the window shows you the MSWord version you have. You should get something like: "Microsoft Word 2000 (9.0.3821 SR-1)". If you don't get SR-1 (or SR-1a) at the end, you need to install the Service Release. Contact your IT department or follow this link: http://support.microsoft.com/support/kb/articles/Q245/0/25.ASP
- You have to introduce a new entry in the Windows registry. You can do this simply by clicking twice in the file "word_bug_fix.reg" attached. Note that modifying the Windows Registry incorrectly can cause serious problems; this fix simply introduces a new entry in a MSWord part of the registry, but if you don't feel confident, contact your IT department or check the Microsoft link below.
- Open MSWord normally. The fix proposed will open the corrupted files without warning and delete the unused list templates, so its count goes under 1500. The user will not notice anything, but this implies that the document is modified. When closing, MSWord will ask the user if he wants to save the changes, even if apparently no change has been made.

This bug is confirmed by Microsoft and it is listed in its Support Web Site. Follow this link to get the complete report:

http://support.microsoft.com/support/kb/articles/q241/5/81.asp

7.2 Where is the information regarding the Core Network located ?

Unfortunately, there is no one document that describes the Core Network, as it is an area of work far too involved to be contained in one specification.
For a general overview document of Network Architecture TS 23.002 may be downloaded from our FTP server. ftp://ftp.3gpp.org/Specs/October_99/23_series.
For more general organizational information, have a look at the 3GPP web site which shows the individual areas of 3GPP and in particular Core Network. http://www.3gpp.org/TSG/CN.htm.

7.3 Do I need a password and user name to access the 3GPP Web site ?

No password is needed to access any information on the 3GPP Web site, all information is openly published.

7.4 Can you give me information about which companies manufacture particular types of equipment. Or about what services are available on particular networks?

No. The 3GPP Support Team must remain neutral and must not show bias to any of its Individual Members. Such information may be available from the Global Mobile Suppliers Association (www.gsacom.com) where you will find a statistics area which could be of help.

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Last updated:
2005-09-12
2005-08-22

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3GPP Specifications Home Page

Spec download | Titles and spec numbers | Current version | Releases | Numbering scheme | Change Requests
Published specifications | Historical information | Work plan | TSG Working methods | Drafting rules | Delegates corner| ASN.1

The term "***3GPP specification***" covers all **GSM** (including **GPRS** and **EDGE**) and **3G** specifications. The following terms are also used to describe networks using the 3G specifications: **UTRAN**, **W-CDMA**, **UMTS** (in Europe) and **FOMA** (in Japan). Revised versions of many of these specifications are produced up to four times a year following the quarterly TSG plenary meetings. See the table below which gives links to lists of specifications arising from each plenary TSG meeting since the freezing of Release 1999. The month of the meeting and the meeting number are shown in each case.

Following each TSG SA plenary meeting, a complete set of specifications is produced. This set includes not only the new specifications generated at that meeting, but also the latest versions of each specification that was not changed at that meeting. i.e. each directory holds a complete set of specifications. Each set has an associated **status list** as detailed in the table below. Each set (and corresponding status list) includes the specs arising from the TSG GERAN meetings held since the preceding SA meeting. (GERAN meets asynchronously from the other TSGs.)

The **Status List** (ZIPped RTF format) summarizes the current version number for every release of every 3GPP specification following each TSG plenary meeting. Also listed for each specifications are:

- the 3GPP working group and rapporteur responsible for the specification
- the Project Manager in MCC (Mobile Competence Centre) responsible for the specification
- the meeting at which it was, or is expected to be, "frozen" (i.e. the point after which only corrections are allowed)

year-month	remark	status list	specs directory	TSG CN	TSG RAN	TSG T	TSG SA	TSG GERAN
2002-04			ftp://ftp.3gpp.org/specs/2002-04-geran-mtg-09-delta/					9th meeting
2002-03	Rel-5 features content functionally frozen	StatusList	ftp://ftp.3gpp.org/specs/2002-03/	15th meeting	15th meeting	15th meeting	15th meeting	
2002-02								8th meeting
2001-12		StatusList	ftp://ftp.3gpp.org/specs/2001-12/	14th meeting	14th meeting	14th meeting	14th meeting	
2001-11								7th meeting
2001-09		StatusList	ftp://ftp.3gpp.org/specs/2001-09/	13th meeting	13th meeting	13th meeting	13th meeting	
2001-08								6th meeting
2001-06		StatusList	ftp://ftp.3gpp.org/specs/2001-06/	12th meeting	12th meeting	12th meeting	12th meeting	5th meeting
2001-06								4th meeting
2001-03	Rel-4 features content functionally frozen	StatusList	ftp://ftp.3gpp.org/specs/2001-03/	11th meeting	11th meeting	11th meeting	11th meeting	
2001-01								3rd meeting
2000-12		StatusList	ftp://ftp.3gpp.org/specs/2000-12/	10th meeting	10th meeting	10th meeting	10th meeting	
2000-11								2nd meeting
2000-09		StatusList	ftp://ftp.3gpp.org/specs/2000-09/	9th meeting	9th meeting	9th meeting	9th meeting	1st meeting
2000-06		StatusList	ftp://ftp.3gpp.org/specs/2000-06/	8th meeting	8th meeting	8th meeting	8th meeting	
2000-03				7th meeting	7th meeting	7th meeting	7th meeting	
1999-12	R99 features content functionally frozen			6th meeting	6th meeting	6th meeting	6th meeting	

If you plan to download a large number of specifications and are using MS Explorer 4.0 or earlier, it may be worthwhile acquiring an FTP client software tool such as:

- Ipswitch WS_FTP Pro® : This general purpose file transfer program simplifies the process of downloading large numbers of files from an FTP site.
- FTPSync®: This tool allow the user to specify a directory on their local disk and synchronize it with a directory on an FTP site.

Latest version

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The **latest versions** of the specifications can always be found here:
ftp://ftp.3gpp.org/specs/latest/.

Particular version

All older versions of specifications (where available) are stored in the archive subdirectory. All versions of all releases of a given specification are placed directly under the name of the specification.
ftp://ftp.3gpp.org/specs/archive/

Title or subject

If you only know the **title** or the subject, but not the specification number, the best place to start looking is the complete list of all 3GPP specification numbers and titles. A high level description of each *series* (of specification e.g. the 25.- series) is available in on the page called "Releases and the numbering scheme for 3G specifications". Once you have identified possible specification numbers, go the "Latest Version" directory mentioned above.

Specs related to a particular working group

Each 3GPP TSG Working Group has a home page, which lists the specifications under their responsibility. Follow the links from here....

Official versions published by recognized Standards Development Organizations

The 3GPP Technical Specifications (and Technical Reports) which are publicly available from this site have, in themselves, no legal standing. They only become "official" when transposed into corresponding publications of the Partner Organizations. If you are looking for the **official versions**, see the official publications page.

Further information:

- **Work plan.** The 3GPP Work plan describes the new functionality currently being elaborated in the TSG working groups. It also indicates the expected timescales for their finalisation.
- **Numbering scheme.** What is the system for numbering specifications? Which specifications contain information on .....? Find out here.
- **Releases (and phases, stages).** An introduction to the 3GPP mechanism for specifications releases can be found here.
- **Historical information.** If you need to look for old / superceded specifications or change requests, start here.
- **TSG working methods.** The procedures for creating, enhancing and maintaining specifications are described in TR 21.900. A presentation outlining the release and change request process can be found here.
- **3GPP Drafting rules.** The rules for drafting specifications are described in TR 21.801.
- **Change Requests (CRs).** The change request mechanism is used when a correction or new functionality is required for an existing specification. Here you can find all information related to change requests.

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3GPP Specifications - Numbering scheme

Spec download | Titles and spec numbers | Current version | Releases | Numbering scheme | Change Requests
Published specifications | Historical information | Work plan | TSG Working methods | Drafting rules | Delegates corner| ASN.1

All 3G and GSM specifications have a 3GPP specification number consisting of 4 or 5 digits. (e.g. 09.02 or 29.002). The first two digits define the series as listed in the table below. They are followed by **2** further digits for the 01 to 13 series or **3** further digits for the 21 to 52 series.

The full title, specification number and latest version number for every specification can be found in the status list and more information about terms such R99 and Rel-4 can be found on the Releases and phases page.

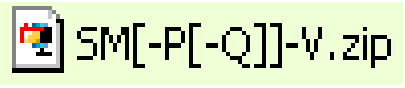
A specification in the 21 to 35 series may apply either to 3G only or to GSM and 3G. This can be determined by the third digit, where a "0" indicates that it applies to both systems. For example, 29.002 applies to 3G and GSM systems whereas 25.101 and 25.201 apply only to 3G. All other series apply only to GSM systems.

Subject of specification series	3G/GSM R99 and later	GSM only (Rel-4 and later)	GSM only (before Rel-4)
Requirements	21 series	41 series	01 series
Service aspects	22 series	42 series	02 series
Technical realization	23 series	43 series	03 series
Signalling protocols (user equipment to network)	24 series	44 series	04 series
Radio aspects	25 series	45 series	05 series
CODECs	26 series	46 series	06 series
Data	27 series	47 series	07 series
Signalling protocols (RSS-CN)	28 series	48 series	08 series
Signalling protocols (intra-fixed-network)	29 series	49 series	09 series
Programme management	30 series	50 series	10 series
User Identity Module (SIM / USIM)	31 series	51 series	11 series
O&M	32 series	52 series	12 series
Access requirements and test specifications		13 series (1)	13 series (1)
Security aspects	33 series	(2)	(2)
Test specifications	34 series	(2)	11 series
Security algorithms	35 series	(2)	(2)

Note (1): The 13 series GSM specifications relate to European-Union-specific regulatory standards. On the closure of ETSI TC SMG, responsibility for these specifications was transferred to ETSI TC MSG, (Mobile Specification Group) and they do not appear on the 3GPP file server.

Note (2): The specification of these aspects were spread throughout several series.

The 3GPP Specifications are stored on the file server as zipped MS-Word files. The filenames have the following structure:



where the character fields have the following significance ...

S = series number - 2 characters (see the table above)
M = mantissa (the part of the spec number after the series number) - 2 or 3 characters (see above)
P = optional part number - 1 or 2 digits if present
Q = optional sub-part number - 1 or 2 digits if present
V = version number, without separating dots - 3 digits

So for example:
21900-320.zip is 3GPP TR 21.900 version 3.2.0
0408-6g0.zip is 3GPP TS 04.08 version 6.16.0
32111-4-410 is 3GPP TS 32.111 part 4 version 4.1.0
29998-04-1-100 is 3GPP TS 29.998 part 4 sub-part 1 version 1.0.0

Full details can be

Related Information. Further information about the Specification numbering scheme, 3GPP releases, phases, file naming conventions, and other related information can be found in 3GPP TR 21.900 "*Technical Specification Group working methods*". See the download page to find the latest version of TS 21.900.

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APPENDIX 13

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The present document specifies the procedures used at the radio interface (Reference Point Um, see 3GPP TS 04.02) for the General Packet Radio Service (GPRS) Medium Access Control /Radio Link Control (MAC/RLC) layer within the digital cellular telecommunications system (Phase 2+).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

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A GLOBAL INITIATIVE

in coordination with ARIB, CWTS, ETSI, T1, TTA *and* TTC

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by 3GPPContact

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   7/18/00  4:06 PM       <dir> Information
   5/25/00  2:42 PM       <dir> Op
   5/25/00  2:43 PM       <dir> PCG
   7/31/00 11:31 AM       <dir> Specs
    4/3/00  3:30 PM       <dir> TSG_CN
    8/9/00  2:03 PM       <dir> TSG_GERAN
   2/28/99  4:58 PM       <dir> TSG_RAN
   6/13/00  5:20 PM       <dir> TSG_SA
    1/8/99 10:07 AM       <dir> TSG_T
   1/31/00  4:44 PM       <dir> WORKSHOP
```

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1/3/01	10:17 AM	<dir>	2000-12
5/27/99	7:08 AM	<dir>	April_99
1/12/00	9:00 PM	<dir>	December_99
8/9/00	2:46 PM	<dir>	GSM
8/3/99	12:32 PM	<dir>	June_99
11/17/00	11:04 AM	<dir>	Latest_drafts
3/21/00	1:04 PM	<dir>	March_00
11/15/99	5:08 PM	<dir>	October_99

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11/7/00	1:19 PM	3197952	status_2000-September_2000-11-07.doc

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10/10/00	11:20 AM	<dir>	05_series
11/22/00	9:03 AM	<dir>	06_series
10/9/00	1:38 PM	<dir>	07_series
10/18/00	3:45 PM	<dir>	08_series
10/11/00	7:04 PM	<dir>	09_series
10/9/00	1:39 PM	<dir>	10_series
11/30/00	3:05 PM	<dir>	11_series
10/9/00	1:39 PM	<dir>	12_series
10/18/00	12:22 PM	<dir>	21_series
11/27/00	2:45 PM	<dir>	22_series
11/6/00	5:50 PM	<dir>	23_series
11/9/00	10:20 AM	<dir>	24_series
11/13/00	9:22 AM	<dir>	25_series
11/6/00	1:50 PM	<dir>	26_series
10/23/00	9:02 AM	<dir>	27_series
10/4/00	11:13 AM	<dir>	28_series
10/31/00	3:29 PM	<dir>	29_series
10/4/00	11:14 AM	<dir>	30_series
10/18/00	12:23 PM	<dir>	31_series
10/10/00	4:00 PM	<dir>	32_series
10/11/00	8:22 AM	<dir>	33_series
10/6/00	3:32 PM	<dir>	34_series
10/4/00	11:14 AM	<dir>	35_series

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10/9/00	2:29 PM	19107	0401-800.zip
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10/9/00	2:29 PM	65204	0404-810.zip
10/9/00	2:29 PM	64821	0405-800.zip
10/9/00	2:29 PM	115500	0406-800.zip
10/9/00	2:29 PM	22041	0408-800.zip
10/9/00	2:29 PM	43038	0413-801.zip
10/9/00	2:29 PM	117226	0414-810.zip
10/11/00	8:03 PM	426963	0418-860.zip
10/18/00	4:45 PM	232976	0421-820.zip
10/9/00	2:29 PM	125893	0431-810.zip
10/11/00	8:03 PM	110187	0435-820.zip
10/9/00	2:29 PM	167392	0456-801.zip
10/9/00	2:29 PM	80526	0457-801.zip
10/11/00	8:03 PM	462809	0460-860.zip
10/9/00	2:29 PM	55764	0463-801.zip
10/12/00	4:05 PM	212746	0464-850.zip
10/12/00	4:05 PM	251895	0465-810.zip
10/9/00	2:29 PM	94179	0468-801.zip
10/9/00	2:29 PM	105090	0468-810.zip
10/9/00	2:29 PM	81413	0469-810.zip
10/9/00	2:29 PM	105753	0471-810.zip

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APPENDIX 20

Technical Specification Group GERAN
Meeting #1, Seattle, WA, U.S.A, 28 August – 1 September 2000

Report

Source: **Secretary TSG GERAN, Paolo Usai**

Title: **Report of TSG GERAN meeting #1, version 0.0.2**

Document for: **Comment**

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1 Opening of the meeting

The meeting was opened by the TSG GERAN Convenor, Mr. Niels Peter Skov Andersen, who welcomed delegates to Seattle. The meeting was hosted by the **North American Friends of 3GPP** and Mr. Bernard Guarino (AT&T) gave a welcoming address.

2 Approval of the Agenda

The TSG GERAN Convenor presented the Draft Agenda.

The agenda followed as far as possible the same outline as at previous SMG2 meetings.

The draft **agenda**, provided in TD GP-000001 was approved.

3 Review of terms of reference for TSG GERAN

The TSG GERAN Convenor presented TD GP-000277 **GSM/EDGE Radio Access Network Technical Specification Group (TSG-GERAN) Terms of Reference**. The document was noted.

4 Establishment of Working Groups and their terms of reference

Four Working Groups were agreed to be created

The TSG GERAN Convenor presented TD GP-000278 **Proposed GSM/EDGE Radio Access Network Technical Specification Group Working Group 1 Radio Aspects (TSG-GERAN WG1 Radio Aspects) Terms of Reference**. The document was revised in TD GP-000285 and approved.

The TSG GERAN Convenor presented TD GP-000279 **Proposed GSM/EDGE Radio Access Network Technical Specification Group Working Group 2 Protocol Aspects TSG-GERAN WG2 Protocol Aspects) Terms of Reference**. The document was approved.

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The TSG GERAN Convenor presented TD GP-000280 **Proposed GSM/EDGE Radio Access Network Technical Specification Group Working Group 3 Base Station Testing and O&M (TSG-GERAN WG3 Base Station Testing and O&M) Terms of Reference**. The document was approved.

The TSG GERAN Convenor presented TD GP-000281 **Proposed GSM/EDGE Radio Access Network Technical Specification Group Working Group 4 Terminal Testing (TSG-GERAN WG4 Terminal Testing) Terms of Reference**. The document was approved.

Convenors were agreed for the four Working Groups.

GERAN WG1 Radio aspects, Convenor Mr. Niels Andersen (Motorola)

GERAN WG2 Protocol aspects, Convenor Mr. Jean-Francois Minet (Nortel Networks)

GERAN WG3 Base Station Testing and O&M Convenor Mr. Ake Busin (Ericsson)

GERAN WG4 Mobile Station Testing will meet independently first time in the week 11-15 September 2000, Convenor Jean-Marc Recouvreux (Alcatel)

Elections of GERAN/WGs Chairmen/Vice-Chairmen will take place in November 2000 (and in April 2001). Call for Candidates will be circulated through the reflectors. Voting rules were clarified.

A clarification was given on the creation of the new set of E-mail reflectors related to GERAN/WGs activities, and on the numbering scheme of future releases of specifications.

5 Letters / Reports from other groups

5.1 TSG-CN, TSG-RAN, TSG-SA, TSG-T and PCG/OP

The TSG GERAN Convenor presented TD GP-000282 **Draft Principles of 3GPP Work Planning - Release Mechanisms**, from 3GPP TSG-SA Planning Ad-hoc meeting. The document was noted.

The TSG GERAN Convenor presented TD GP-000283 **Draft Framework for planned content of next Release**, from 3GPP TSG-SA Planning Ad-hoc meeting. The document was noted. The work plan will be updated to include GERAN work items and foreseen completion (realistic) dates as well, possibly aligned/synchronised with other TSGs foreseen work.

The TSG GERAN Convenor presented TD GP-000284 **3GPP Work Planning for IM SubSystem**, from 3GPP TSG-SA Planning Ad-hoc meeting. The document was noted. The work plan will be updated to include GERAN work items and foreseen completion (realistic) dates as well, possibly aligned/synchronised with other TSGs foreseen work.

TD GP-000059 **Response to LS (R2-000945), LS TSG S1 (00) 103 on UE/MS idle mode operation and LS TSG S1 (00) 368 on PLMN selection**, from TSG-CN WG1. The document was noted by TSG GERAN.

TD GP-000060 **Response to LS on usage of terms GSM, UMTS and GERAN**, from TSG-CN WG1. The document was noted by TSG GERAN.

TD GP-000227 **Answer to Proposal of exchange of the terms “in GSM” and “in UMTS”**, from TSG-CN WG1. The document was replied by TSG GERAN. TSG GERAN WG2 was tasked to write an answer.

TD GP-000061 **Reply to LS on Correction for mobile stations staying in GMM READY virtually for ever**, from TSG-CN WG1. The document was noted by TSG GERAN.

TD GP-000062 **Liaison Statement on the introduction of 3G MS capabilities in MS classmark 3**, from TSG-CN WG1. The document was left for A. I. 8.2.5.1.

TD GP-000063 **Reply to LS on “GPRS ciphering"**, from TSG-CN WG1. The document was noted by TSG GERAN. TSG SA had already suggested a way forward for R97, R98 and R99. Concern was raised by

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Mr. J-F Minet for room availability in radio transmission (one byte more is requested). It was left to WG2 to investigate the feasibility of the proposed solution.

TD GP-000064 **LS on 32 kbit/s UDI/RDI multimedia**, from TSG-CN WG3. The document was left to be treated by TSG GERAN. WG2. **ACTION:** TSG_CN WG3 asked **GERAN** to check the impact on TS 08.08 and possible other SMG2/GERAN's specifications and evaluate the feasibility of making the required changes as a correction in R99 rather than as a new feature or function in R00. An answer was left be provided c/o WG2, and copied to TSG GERAN Plenary.

TD GP-000065 **Response to LS (R1-000798) on Neighbour Cell SFN detection for Handover**, from TSG-RAN WG2. The document was noted by TSG GERAN.

TD GP-000066 **Response to liaison statement on support of AMR via Iu-ps in GERAN**, from TSG-RAN WG3. The document was noted by TSG GERAN as most work has to be (yet) started. Mutual understanding of the real work needed on support of AMR via Iu-ps in GERAN was also raised, and a separate LS could be provided for clarification to TSG-RAN WG3.

TD GP-000067 **Response on LS on Neighbour Cell SFN Detection for Handover**, from TSG-RAN WG4. The document was noted by TSG GERAN.

TD GP-000068 **LS on interworking of low chiprate TDD with GSM, high chiprate TDD and FDD**, from TSG-RAN. The document was noted by TSG GERAN. The issue was left to be eventually further discussed under A. I. 7.

TD GP-000069 **LS to SMG2 on TR22.976**, from TSG-SA WG1. The document was noted by TSG GERAN.

TD GP-000070 **Answer to LS on Guidance on future work for T2 SWG5, Multi-mode terminals**, from TSG-SA WG2. The document was noted by TSG GERAN.

TD GP-000262 **Reply to LS on Guidance on future work for T2 SWG5, Multi-mode terminals**, from TSG-SA WG1. The document was noted by TSG GERAN.

TD GP-000071 **Liaison Statement on "Two phase resource reservation"**, from TSG-SA WG2. The document was considered by TSG GERAN. Answer was felt not easy, nor fruitful at this meeting, as further information was felt needed. Some mechanisms were felt possibly already available. Conclusion: before answering, TSG GERAN would like to consider TSG RAN WG2 and TSG RAN WG3 replies to this LS.

TD GP-000072 **LS on GERAN security issues**, from TSG-SA WG3. The document was noted by TSG GERAN. Actions were already taken at the 3GPP TSG GERAN Ad-hoc on release 2000 and beyond #1 meeting. Further work was felt needed on this issue.

TD GP-000073 **LS on Network Control of AMR Noise Suppressor**, from ETSI SMG11/TSG-SA WG4. The document was left to be replied by WG2 under A. I. 8.2.5.1 and A. I. 8.2.5.11.

TD GP-000074 **LS to ETSI SMG2 on Wideband Speech**, from TSG-SA WG4. The document was noted by TSG GERAN. Quarter rate channels were mentioned, but felt not applicable to the wideband selected algorithm at December 2000 TSG-SA meeting. WG1 was left to deal with the time scale for the completion of the requested tasks.

TD GP-000228 **Questions on Behaviour in the "forward handover" scenario without an Iur in Release '99**, from TSG-RAN WG3. The document was noted by TSG GERAN.

TD GP-000290 **Response to LS (R3-002198) on Directed signalling connection re-establishment at RRC**, from TSG-RAN WG2. The document was noted by TSG GERAN.

5.2 Partners and their bodies

TD GP-000057 **Liaison statement to TC SMG 2; Removal of EM emission requirements from Draft EN 300 342-3 V1.2.1 (1999-12) - EMC for GSM and DCS base station equipment meeting Phase 2 and 2+ requirements**, from ETSI ERM. The document was left for A. I. 8.3.4.2.

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TD GP-000058 **PLMN search and access technology lists, from ETSI Project "New SMG9"**. The document was noted by TSG GERAN. A common meeting will be organised to discuss the matters mentioned in the LS.

5.3 Others

TD GP-000035 **Report on IETF AVT Working Group Meeting (Pittsburgh, PA on August 2-3, 2000) Regarding ETSI SMG2 #36 Tdoc SMG2 1137/00 "LS on RTP Encoding of GSM AMR Codec"**, from Nortel Networks, was presented by Mr. P. Barany. The document was noted by TSG GERAN.

6 Reports from Ad-hoc meeting

TD GP-000085 **Detailed planning for GERAN**, from GERAN Adhoc on release 2000 and beyond. The document was presented by Mr. F. Muller. The document was noted by TSG GERAN. Work items will have to be included in the work plan, referencing to appropriate descriptions and appointed Rapporteurs (comment: Iucs interface was noticed to be missing a “?” in the document).

7 Common GSM EDGE Radio Access Network matters

7.1 Location Services (LCS) - General Aspects

TD GP-000075 **TS 43.059 ver. 0.0.1 Stage 2 Description of location Services in GERAN (R00)**, from Nokia, was presented by Ms. M. Livingston. The document was felt to be possibly finalised by November 2000. It was left also for A. I. 8.1.5.9 and A. I. 8.2.5.9.

7.2 EDGE – General Aspects

TD GP-000089 **EGPRS and DTM'99**, from Nokia, was presented by Mr. G. Sebire. The document was discussed by TSG GERAN. Mr. J. Achard (Alcatel) questioned whether remaining problems on DTM could be resolved during this very week, e.g. power level control, in order not to delay further R99. J-F Minet reminded that EDGE support was initially proposed not to be included in DTM R99. Note 1 of the document was brought to the attention of the Group by Mr. A. Ohana. Conclusion: areas of concerns, e.g. support of 8-PSK, were left to be debated during the WG meetings to recommend whether or not to include the related features in R99.

TD GP-000090 **CR 03.64-A073 DTM (R99)**, from Nokia. The document was left to be dealt with by TSG GERAN WG1.

TD GP-000091 **CR 03.64-A074 DTM+EGPRS (R99)**, from Nokia. The document was left to be dealt with by TSG GERAN WG1.

7.3 GSM/EDGE RAN (GERAN) Future Architecture

TD GP-000080 **Meeting report from the 3GPP TSG GERAN Adhoc on release 2000 and beyond #1**, from Rapporteur, was presented by Mr. F. Muller (slides). The document was noted by TSG GERAN.

TD GP-000084 **10.99, V0.0.7**, from Rapporteur, , was presented by Mr. F. Muller (slides). The document was noted by TSG GERAN.

Both documents will be further discussed during an off-line session held in parallel to WGSs on Tuesday August 29th, 2000, starting at 16.00 hours. The output of the off-line session will be a contribution submitted (Source: name of the attending Companies) to both WGs.

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TD GP-000086 **Terms of references for TSG GERAN Adhoc meetings**, from Rapporteur. The document was discussed by TSG GERAN. Specific approved Work Items within the scope of discussion in ad-hoc meetings should be clearly stated. Drafting of Liaison Statements should be limited to request of information. The revised document was TD GP-000296.

TD GP-000085 **Detailed planning for GERAN**, from GERAN Adhoc on release 2000 and beyond. The document was already presented under A. I. 6, and was left for A. I. 10 as well.

TD GP-000081 **LS on inter-BSC hard handover in GERAN**, from GERAN Adhoc on release 2000 and beyond, was presented by. The document was asked to be revised and will be revisited by TSG GERAN WG2. The revised document was TD GP-000297.

TD GP-000082 **LS on GERAN requirements for Multimedia control signalling**, from GERAN Adhoc on release 2000 and beyond. The document was asked to be revised and will be revisited by TSG GERAN WG1. The revised document was TD GP-000298.

TD GP-000083 **LS on GERAN MM, access rules and load sharing**, from GERAN Adhoc on release 2000 and beyond. The document was discussed extensively, listing the relevaant questions to TSG-SA WG1; the LS was requested to be revised and will be revisited by TSG GERAN WG2. The revised document was TD GP-000299.

TD GP-000242 **03.51 GERAN Stage 2 description**, from Nokia. The document will become 3G TS 43.051. Figure 4 in Sect. 5 will be checked. Security aspects will be checked as well. Section numbering will be aligned. The document was noted by TSG GERAN. Further input were requested to be provided to the Rapporteur, to resolve the ffs points.

TD GP-000243 **Analysis of SIP signalling over GERAN Radio Interface**, from Nokia. The document was left for A. I. 8.1.5.6. and A. I. 8.2.5.6.

TD GP-000112 **GERAN Design**, from Lucent Technologies. The document was left for A.I. 8.2.5.6.

TD GP-000113 **GERAN RRC States**, from Lucent Technologies. The document was left for A.I. 8.2.5.6.

TD GP-000114 **Impacts of GERAN Protocol Architecture on GSM 04.60**, from Lucent Technologies. The document was left for A.I. 8.2.5.6.

7.4 GSM/EDGE RAN (GERAN) Radio Aspects

TD GP-000117 **Conversational and Streaming RAB Realization**, from Lucent Technologies. The document was left for A. I. 8.1.5.6.

7.5 GSM-3G handover – General Aspects

TD GP-000005 **GSM 10.89 GSM to Other Systems Handover version 0.0.6**, from Rapporteur (Siemens). The document was noted by TSG GERAN.

TD GP-000125 **Handover and Cell Reselection from GSM to UTRA Low Chip Rate TDD**, from Siemens. The document was noted by TSG GERAN. Questions were left to be dealt with off-line.

TD GP-000201 **Pre-configuration concept : Proposed corrections (GSM to UMTS handover)**, from Vodafone, was presented by Mr. C. Arzelier. The document was discussed by TSG GERAN. Memory issue was raised (at least 4kbytes were felt needed). The detailed discussion was left eventually to take place during the TSG GERAN WG1.

TD GP-000202 **Pre-configuration downloads : Allowing Mobile Terminated Calls and preventing MM RR Connection Release**, from Vodafone, was presented by Mr. C. Arzelier. J-F Minet questioned why DTM functionalities (optional) and 2G-3G handover requirements were mixed and made (partly) mandatory;

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paging impact was debated. The detailed discussion was left eventually to take place during the TSG GERAN WG2.

TD GP-000238 **RAB Pre-Configuration concept**, from Ericsson. The document was left for A. I. 8.2.5.2.

7.6 Other general aspects

TD GP-000219 **GSM 400 system; Compatibility considerations**, from Nokia, was presented by Ms. J. Pekonen. The document was discussed by TSG GERAN. Release independent MS requirements were requested to be aligned with the necessary changes to the network, in order to get the release independent MSs work in practice. Changes to GSM 04.04 were requested to be checked as well. An updated version of the document was requested to be produced (related to R97 onwards).

TD GP-000265 **DRAFT (proposed) Liaison Statement on preventing unciphered writing/overwritting of pre-configuration fields by the HPLMN**, from Vodafone. The document was left for A. I. 8.2.5.2.

TD GP-000126 **Dual Transfer Mode: concept document**, from Vodafone. The document was left for A. I. 8.1.5.1 and A. I. 8.2.5.1.

8 Working Group Sessions

8.1 GERAN WG1 Radio aspects (See Tdoc GP-000002 for detailed agenda)

See Annex F.

8.2 GERAN WG2 Protocol aspects (See Tdoc GP-000003 for detailed agenda)

See Annex G.

8.3 GERAN WG3 Base Station Testing and O&M (See Tdoc GP-000004 for detailed agenda)

See Annex H.

9 Outcome of Working Group Sessions

9.1 GERAN WG1 GERAN WG1 Radio aspects

9.1.1 Report from GERAN WG1 Radio aspects

The TSG GERAN Convenor presented TD GP-000465 **Draft Report of TSG GERAN WG1 meeting no 1**.

9.1.2 Open Questions from GERAN WG1 Radio aspects

TD GP-000405 **TS 43.059 ver. 0.0.2 Stage 2 Description of location Services in GERAN (R00)**, and

TD GP-000406 **Open issues in LCS description stage 2 for R00** were presented by Ms. J. Pekonen (Comments to be sent to the rapporteur).

TD GP-000461 **GSM 09.9x Release Independent Frequency Bands; Implementation guidelines (R97), Version 1.0.0** was noted (Comments to be sent to the rapporteur).

TD GP-000462 **GSM 09.9x Release Independent Frequency Bands; Implementation guidelines (R98), Version 1.0.0** was noted (Comments to be sent to the rapporteur).

TD GP-000469 **Proposed Changes to Stage 2 Description: Generic Conversational and Streaming RAB Realization** from AT&T, Ericsson, Lucent, Nokia, Nortel, Siemens was noted.

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TD GP-000470 **Proposal for RRC description to GERAN Stage 2** was noted.

TD GP-000471 **GERAN Overall Description, Stage 2** : Nortel Networks remarked that this new version of the draft stage 2 did not contain any update with regard to the legacy transceiver requirements. The document was noted.

9.1.3 Approval of contributions from GERAN WG1 Radio aspects

See also Annex D containing the overall list of CRs approved at the GERAN#1 Meeting.

The approved documents from the meeting GERAN-WG1 are listed in the following:

GPRS, DTM

TD GP-000105 **CR 05.10-A059 Correction of assignment reaction time (R99)**

TD GP-000091 **CR 03.64-A074 DTM+EGPRS (R99)** was conditionally agreed, under the assumption that the technical details are agreed as well.

TD GP-000092 **CR 05.01-A028 DTM (R99)**

TD GP-000093 **CR 05.01-A029 DTM+EGPRS (R99)**

TD GP-000094 **CR 05.02-A162 DTM (R99)**

TD GP-000321 **CR 05.05-A170 Correction on CS-4 performance requirement (R97)**

TD GP-000322 **CR 05.05-A171 Correction on CS-4 performance requirement (R98)**

TD GP-000323 **CR 05.05-A172 Correction on CS-4 performance requirement (R99)**

TD GP-000328 **CR 05.08-A297Class A Dual Transfer Mode (DTM): correction to reporting procedures (R99)**

TD GP-000326 **CR 03.64-A073 rev 1 DTM (R99)**

TD GP-000325 **CR 05.08-A296 rev 1 BTS RF power control (R99)**

TD GP-000327 **CR 03.64-A075 rev 1 DTM: alignments (R99)**

TD GP-000364 **CR 05.08-A298 rev 1 Requirements for search, verification and BSIC decoding of adjacent cells while in packet transfer mode (R99)**

TD GP-000426 **CR 05.01-A031 Minimum Mobile Station Class and Channelisation Capabilities**

GSM-3G handovers and multimode operation

TD GP-000220 **CR 05.10-A061 Addition of the switching requirement for the GSM to UTRAN (R99)**

Nortel Networks asked to include the requirements within []. The reason for the additional interruption time (120 to 200 ms, i.e. 80 ms more) for the GSM to UTRAN case was clarified. The reaction time for blind handover was clarified not to be covered in practice by the specification yet. The CR was agreed “as is”.

TD GP-000330 **CR 05.08-A291 rev 1 Corrections to Inter System Handover and Cell re-selection (R99)**

EGPRS (R99), COMPACT (R99)

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TD GP-000361 **CR 05.08-A288 rev 1 Clarifications on EGPRS Quality parameters (R99)**

TD GP-000362 **CR 05.08-A290 rev 1 Clarifications of interference measurements for COMPACT (R99)**

TD GP-000106 **CR 05.02-A163 Corrections to COMPACT (R99)**

TD GP-000195 **CR 05.02-A165 Editorial corrections related to COMPACT (R99)**

EDGE

TD GP-000013 **CR 05.05-A162 Pico BTS Reference interference level clarification (R99)**

TD GP-000363 **CR 05.05-A173 rev 1 Clarification of BTS output power capability with 8-PSK (R99)**

ASCI

TD GP-000331 **CR 03.22-A006 rev 1 Check selected cell deduced by SI10 information with SI3 ones (R00)**

TD GP-000007 **CR 05.02-A161 NCH clarification (R00)**

MAFA

TD GP-000332 **CR 05.08-A284 rev 1 Extended measurement report (MAFA) (R96)**

TD GP-000333 **CR 05.08-A285 rev 1 Extended measurement report (MAFA) (R97)**

TD GP-000334 **CR 05.08-A286 rev 1Extended measurement report (MAFA) (R98)**

TD GP-000335 **CR 05.08-A287 rev 1 Extended measurement report (MAFA) (R99)**

Support of Frequency bands

TD GP-000370 **CR 05.05-A165 Introduction of GSM 700 in 05.05 GSM on 700 MHz Frequency Band (R00)**

TD GP-000221 **CR 03.22-A050 GSM 700 spectrum update (R00)**

TD GP-000222 **CR 03.30-A011 GSM 700 cell sizes and RF budgets (R00)**

TD GP-000223 **CR 05.01-A030 Introduction of GSM 700 in 05.01 (R00)**

TD GP-000224 **CR 05.08-A293 GSM 700 bands introduced in 05.08 (R00)**

TEI Corrections

TD GP-000336 **CR 05.08-A289 rev 1 Editorial corrections (R99)**

TD GP-000107 **CR 05.02-A164 Removal of GPRS related text (R96)**

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TD GP-000108 **CR 05.03-A042 Removal of GPRS related text (R96)**

TD GP-000109 **CR 05.05-A169 Removal of GPRS related text (R96)**

TD GP-000110 **CR 05.08-A292 Removal of GPRS related text (R96)**

TD GP-000111 **CR 05.10-A060 Removal of GPRS related text (R96)**

TD GP-000030 **CR 05.05-A163 Alignment of spurious emissions GSM-3G(UTRA): BTS**

TD GP-000031 **CR 05.05-A164 Alignment of spurious emissions GSM-3G(UTRA): MS**

TD GP-000371 **CR 05.05-A166 rev 1 Definition of "small MS" (R97)**

TD GP-000372 **CR 05.05-A167 rev 1 Definition of "small MS" (R98)**

TD GP-000373 **CR 05.05-A168 rev 1 Definition of "small MS" (R99)**

LIAISON STATEMENTS

TD GP No.	Title:	To:	Copy:
TD GP-000298	**LS on GERAN requirements for Multimedia control signalling**	**TSG-SA WG2**	**TSG-CN WG1**
TD GP-000374	**LS on inter-BSC hard handover in GERAN for the packet switched domain**	**TSG-SA WG2**	**TSG-RAN WG3, TSG-RAN WG2**
TD GP-000463	**LS on the Support of the RATSCCH**	**TSG-SA WG4**	

TD GP-000463 **LS on the Support of the RATSCCH** was presented by Mr. A. Ohana. Mr. D. Choukroun stated that the LS did not reflect Nortel Networks position about the RATSCCH. Nortel Networks would not prefer to remove the RATSCCH from the specifications. Nortel proposes to remove the sentence that option 1 on the removal of RATSCCH would be the preferred option from TSG-GERAN. The LS was revised in TD GP-000472.

TD GP-000472 **LS on the Support of the RATSCCH** was agreed.

9.2 GERAN WG2 Protocol aspects

9.2.1 Report from GERAN WG2 Protocol aspects

Mr. J-F Minet presented TD GP-000468 **Draft Report of TSG GERAN WG2 meeting no 1**.

9.2.2 Open Questions GERAN WG2 Protocol aspects

TD GP-000344 **LS to CN1 on CR 24.000-xxx DTM+EGPRS (GP-000097)** was WITHDRAWN.

TD GP-000299 **LS on GERAN MM, access rules and load sharing** was presented by Mr. G. Finke. Mr. N. Andersen pointed out that the the content of LS was colliding with the R99 overall architecture model. What network entity should control load sharing was felt from the RAN point of view just a matter of radio acces bearer provision. The Convenor recommended not to send the LS on behalf of TSG GERAN. It was suggested to raise the issue directly in 3GPP TSG-SA WG2.

9.2.3 Approval of contributions from GERAN WG2 Protocol aspects

Replace in TD GP-000xxx all following xxx TD numbers to obtain the approved list of CR documents:

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91, 154->327, 25, 26, 27, 121, 342, 127, 314, 317, 142, 144, 337, 150,179, 95, 306, 341, 23, 24, 46, 47, 48, 131, 157, 181, 303, 304, 305, 187, 407, 408, 409->467, 311, ~~301, 302,~~ 419,~~ 410,~~ 140, 148, 422, 129, 135, 139, 309, 28, 122, 343, 128, 315, 318, 143, 145, 338, 151, 180, 96, 307, 141, 149, 423, 358, 359, 382, 263, 383, 360, 378, 379, 380, ~~232,~~ 381,~~ 233,~~ 266, 385, 206, 411, ~~211,~~ 356, 353, ~~387,~~ 347, 175, 345, 424->474->476, 267, 386, 207, 412, ~~212~~, 357, 354, ~~388,~~ 176, 346, 425->475->477, 389, 191, 158, 392, 197, 421, 258->479, 390, 192, 203, 32, 34, 33, 76, 77,~~ 399, 400,~~ 395, 11, 393, 394, 12, 466

See also Annex D containing the overall list of CRs approved at the GERAN#1 Meeting.

TD GP-000312 **Dual Transfer Mode: concept document** was left for further consideration.

LIAISON STATEMENTS

TD GP-000355 **LS to SA2 on 23.060 CRs for Dual Transfer Mode** was agreed.

TD GP-000396 **Proposed Liaison Statement on the introduction of EGPRS for DTM** was agreed.

TD GP-000418 **LS on GSM 700 addition into MS classmark & radio access capability IE** (with TD GP-000417 attachment) was agreed.

TD GP-000414 **Response to LS from CN WG1 on Proposal of exchange of terms "in GSM" and "in UMTS"** was agreed.

TD GP-000265 **DRAFT (proposed) Liaison Statement on preventing unciphered writing/overwritting of pre-configuration fields by the HPLMN** was agreed.

9.3 GERAN WG3 Base Station Testing and O&M

9.3.1 Report from GERAN WG3 Base Station Testing and O&M

Mr. Ake Busin presented TD GP-000369 **Draft Report TSG GERAN #1 WG3**.

9.3.2 Open Questions from GERAN WG3 Base Station Testing and O&M

None.

9.3.3 Approval of contributions from GERAN WG3 Base Station Testing and O&M

See also Annex D containing the overall list of CRs approved at the GERAN#1 Meeting.

The approved documents from the meeting GERAN-WG3 are summarized in the following:

Tdoc GERAN	Title	Source
(00)0365	CR 11.21-A134r1 Correction of Blocking and AM suppression test case in GSM11.21	Nokia
(00)0366	CR 11.21-A131a1 Changes in clause 7 due to EDGE and GSM 05.01	Siemens
(00)0367	CR 11.21-A132r1 Correction of test case for Signal quality, EGPRS	Ericsson
(00)0368	CR 11.21-A133r1 Correction of spurious requirements in UMTS bands.	Ericsson

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(00)0051	Proposed Liaison Statement to ETSI JWG-TC74 regarding TR 101 075	GERAN WG3 convenor

10 Work plan and future meetings

TD GP-000085 **Detailed planning for GERAN**, from GERAN Adhoc on release 2000 and beyond. The document was already dealt with under A. I. 7.3.

TD GP-0000296 **Terms of references for TSG GERAN Adhoc meetings** was agreed.

TD GP-0000473 **Detailed workplan for TSG GERAN** was presented by Mr F. Muller. It was revised in TD GP-0000480.

TD GP-0000430 **Proposed Work Item: Evolution of Iucs interface** was agreed (template to be changed). Nortel Networks asked why the title was modified during the transfer of the Work Item. The convenor answered that it was agreed to split the WI in two (TD GP-0000430 & TD GP-0000431).

TD GP-0000431 **Proposed Work Item: Evolution of A interface** was agreed.

TD GP-0000432 **Proposed Work Item: Low chip rate TDD Interworking with GERAN** was agreed.

TD GP-0000433 **Proposed Work Item: GERAN improvement part 1** was agreed.

TD GP-0000434 **Proposed Work Item: Gb over Ip** was agreed.

TD GP-0000435 **Proposed Work Item: GERAN improvements part 2** was agreed.

TD GP-0000436 **Proposed Work Item: Gb enhancements** was agreed.

TD GP-0000464 **Proposed Work Item: GERAN radio interface evolution** was agreed.

TD GP-0000438 Overall concept for GERAN radio interface evolution to TD GP-0000447 were all agreed.

TD GP-0000448 **Proposed Work Item: BTS Conformance test for GERAN interface evolution** was agreed.

TD GP-0000449 to TD GP-0000452 on GERAN 700 MHz spectrum support were all agreed.

TD GP-0000453 to TD GP-0000455 on AMR were all agreed.

TD GP-0000456 to TD GP-0000459 on LCS were all agreed.

TD GP-0000429 **Proposed Work Item: GERAN/UTRAN interface evolution** was agreed in TD GP-0000481 with the addition of AT&T Wireless, Mitsubishi and Motorola.

TD GP-0000478 **GERAN/UTRAN Interface Evolution** was agreed (reference 421 to be replaaced by 431)

TD GP-0000480 **Detailed workplan for TSG GERAN** was agreed.

A summary of the future meeting dates are given below.

9 - 13 October 2000 **Ad-hoc GERAN** on release 2000 and beyond #2 **in Munich, Germany Host: Siemens**

6 -10 November 2000 **TSG GERAN#2 +WG1 +WG2 + WG3 in Stockolm, Sweden Host: Ericsson (& Telia ?)**

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11 – 15 December 2000 **Ad-hoc GERAN** on release 2000 and beyond #3 **in Orlando, Florida, USA, Host: Lucent Technologies**

12 – 16 February 2001 **Ad-hoc GERAN** on release 2000 and beyond #4 **in tbd, Host: tbd**

A list of other 3GPP meetings of interest is given in the following Table.

TSG	No.	Date	Venue	Host
PCG	#4	17 - 18 July 2000	Beijing, China	CWTS
OP	#3	19 July 2000	Beijing	CWTS
CN	#9	20-22 September 2000	Hawaii , USA	TTC, ARIB, T1
RAN	#9	20-22 September 2000	Hawaii , USA	TTC, ARIB, T1
T	#9	20-22 September 2000	Hawaii , USA	TTC, ARIB, T1
SA	#9	25-28 September 2000	Hawaii , USA	TTC, ARIB, T1
GERAN	#2	6 - 10 November 2000	Stockholm, Sweden	Ericsson, Telia ?
PCG	#5	14 November 2000	North America	T1
OP	#4	15 November 2000	North America	T1
CN	#10	06-08 December 2000	Bangkok, Thailand	Unisys Deutschland GmbH
RAN	#10	06-08 December 2000	Bangkok, Thailand	Unisys Deutschland GmbH
T	#10	06-08 December 2000	Bangkok, Thailand	Unisys Deutschland GmbH
SA	#10	11-14 December 2000	Bangkok, Thailand	Unisys Deutschland GmbH
GERAN	#3	15 - 19 January 2001	Boston, USA	TBD
CN	#11	14 - 16 March 2001	US	
RAN	#11	14 - 16 March 2001	US	
T	#11	14 - 16 March 2001	US	
SA	#11	19 - 22 March 2001	US	
GERAN	#4	02 - 06 April 2001	TBD	TBD
GERAN	#5	28 - 01 May/June 2001	USA ?	TBD
CN	#12	13 - 15 June 2001	EUROPE (Sweden)	
RAN	#12	13 - 15 June 2001	EUROPE (Sweden)	
T	#12	13 - 15 June 2001	EUROPE (Sweden)	
SA	#12	18 - 21 June 2001	EUROPE (Sweden)	
GERAN	#6	27 – 31 August 2001	TBD	TBD
CN	#13	26 - 28 September 2001	TBD	
RAN	#13	26 - 28 September 2001	TBD	
T	#13	26 - 28 September 2001	TBD	
SA	#13	01 - 04 October 2001	TBD	
GERAN	#7	26 – 30 November 2001	TBD	TBD
CN	#14	12 - 14 December 2001	Japan	
RAN	#14	12 - 14 December 2001	Japan	
T	#14	12 - 14 December 2001	Japan	
SA	#14	17 - 20 December 2001	Japan	

11 Any other business

No other business was indicated.

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12 Close of meeting

The TSG GERAN Convenor thanked the hosts for providing the excellent facilities which ensured a smooth-running meeting and thanked the delegates for their hard work and co-operation at the meeting. The meeting was then closed.

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Annex A: Agenda

3GPP TSG GERAN **TSGG#01(00)0001**

Meeting no 1

Seattle, Washington, USA

28 August - 1 September 2000

1 Opening of the meeting

2 Approval of the Agenda

3 Review of terms of reference for TSG GERAN

4 Establishment of Working Groups and their terms of reference

5 Letters / Reports from other groups

- 5.1 TSG-CN, TSG-RAN, TSG-SA, TSG-T and PCG/OP
- 5.2 From Partners and their bodies
- 5.3 Others

6 Reports from Ad-hoc meetings

7 Common GSM EDGE Radio Access Network matters

- 7.1 Location Services (LCS) - General Aspects
- 7.2 EDGE – General Aspects
- 7.3 GSM/EDGE RAN (GERAN) Future Architecture
- 7.4 GSM/EDGE RAN (GERAN) Radio Aspects
- 7.5 GSM-3G handover – General Aspects
- 7.6 Other general aspects

8 Working Group Sessions

- 8.1 GERAN WG1 Radio aspects (See Tdoc GP-000002 for detailed agenda)
- 8.2 GERAN WG2 Protocol aspects (See Tdoc GP-000003 for detailed agenda)
- 8.3 GERAN WG3 Base Station Testing and O&M (See Tdoc GP-000004 for detailed agenda)

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P.S: GERAN WG4 Mobile Station Testing will meet independently first time in the week 11-15 September 2000.

9 Outcome of Working Group Sessions

9.1 GERAN WG1 Radio aspects

9.1.1 Report from GERAN WG1 Radio aspects

9.1.2 Open Questions from GERAN WG1 Radio aspects

9.1.3 Approval of contributions from GERAN WG1 Radio aspects

9.2 GERAN WG2 Protocol aspects

9.2.1 Report from GERAN WG2 Protocol aspects

9.2.2 Open Questions GERAN WG2 Protocol aspects

9.2.3 Approval of contributions from GERAN WG2 Protocol aspects

9.3 GERAN WG3 Base Station Testing and O&M

9.3.1 Report from GERAN WG3 Base Station Testing and O&M

9.3.2 Open Questions from GERAN WG3 Base Station Testing and O&M

9.3.3 Approval of contributions from GERAN WG3 Base Station Testing and O&M

10 Workplan and future meetings

11 Any other business

12 Close of meeting

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Annex B: List of documents

3GPP TSG GERAN

Meeting no 1

Seattle, Washington, U.S.A

28 August – 1 September 2000

List of documents

Tdoc	Title	Source	Agenda Item
GP-000001	Draft Agenda	GERAN Convenor	2
GP-000002	Draft Agenda for TSG GERAN WG1 during TSG GERAN no. 1 in Seattle	GERAN Convenor	8.1.2
GP-000003	Draft Agenda for TSG GERAN WG3 during TSG GERAN no. 1 in Seattle	GERAN Convenor	8.2.2
GP-000004	Draft Agenda for TSG GERAN WG3 during TSG GERAN no. 1 in Seattle	GERAN Convenor	8.3.2
GP-000005	GSM 10.89 GSM to Other Systems Handover version 0.0.6	Rapporteur (Siemens)	7.5
GP-000006	CR 03.22-A049 Check selected cell deduced by SI10 information with SI3 ones (R00)	ETSI STF139	8.1.5.13
GP-000007	CR 05.02-A161 NCH clarification (R00)	ETSI STF139	8.1.5.13
GP-000008	CR 09.31-A017 Subject: Geographic Shape Restriction in LCS (R98)	Siemens ICM	8.2.5.9
GP-000009	CR 09.31-A018 Subject: Geographic Shape Restriction in LCS (R99)	Siemens ICM	8.2.5.9
GP-000010	CR 08.08-A210 Subject: Geographic Shape Restriction in LCS (R98)	Siemens ICM	8.2.5.9
GP-000011	CR 08.08-A211 Subject: Geographic Shape Restriction in LCS (R99)	Siemens ICM	8.2.5.9
GP-000012	CR 48.008-003 Subject: Geographic Shape Restriction in LCS (R00)	Siemens ICM	8.2.5.9
GP-000013	CR 05.05-A162 Pico BTS Reference interference level clarification (R99)	Siemens	8.1.5.5

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Tdoc	Title	Source	Agenda Item
GP-000014	CR 05.08-A284 Extended measurement report (MAFA) (R96)	Siemens	8.1.5.13
GP-000015	CR 05.08-A285 Extended measurement report (MAFA) (R97)	Siemens	8.1.5.13
GP-000016	CR 05.08-A286 Extended measurement report (MAFA) (R98)	Siemens	8.1.5.13
GP-000017	CR 05.08-A287 Extended measurement report (MAFA) (R99)	Siemens	8.1.5.13
GP-000018	CR 04.08-A728 Extended measurement report (MAFA) (R96)	Siemens	8.2.5.13
GP-000019	CR 04.08-A730 Extended measurement report (MAFA) (R97)	Siemens	8.2.5.13
GP-000020	CR 04.08-A732 Extended measurement report (MAFA) (R98)	Siemens	8.2.5.13
GP-000021	CR 04.18-A126 Extended measurement report (MAFA) (R99)	Siemens	8.2.5.13
GP-000022	CR 44.018-002 Extended measurement report (MAFA) (R00)	Siemens	8.2.5.13
GP-000023	CR 04.60-A872 Correction of RLC/MAC message (R97) (Wrong incorporation of CR A731)	Siemens	8.2.5.1
GP-000024	CR 04.60-A873 Correction of RLC/MAC message (R98) (Wrong incorporation of CR A732)	Siemens	8.2.5.1
GP-000025	CR 04.08-A736 Handling of Power-Control-Parameter alpha (R97)	Siemens	8.2.5.1
GP-000026	CR 04.08-A738 Handling of Power-Control-Parameter alpha (R98)	Siemens	8.2.5.1
GP-000027	CR 04.18-A125 Handling of Power-Control-Parameter alpha (R99)	Siemens	8.2.5.1
GP-000028	CR 44.018-003 Handling of Power-Control-Parameter alpha (R00)	Siemens	8.2.5.1
GP-000029	CR 11.21-A131 Changes in clause 7 due to EDGE and GSM 05.01 (R99)	Siemens	8.3.6.3
GP-000030	CR 05.05-A163 Alignment of spurious emissions GSM-3G(UTRA): BTS	Telia, T-Mobil	8.1.5.12
GP-000031	CR 05.05-A164 Alignment of spurious emissions GSM-3G(UTRA): MS	Telia, T-Mobil	8.1.5.12
GP-000032	CR 44.018-001 Wrong NLN reference (R00)	ETSI STF139	8.2.5.8
GP-000033	CR 48.008-002 CLEAR REQUEST use precision with VGCS/VBS call (R00)	ETSI STF139	8.2.5.8
GP-000034	CR 48.008-001 VBS/VGCS assignment request message can be piggy-backed in a SCCP Connection Request message (R00)	ETSI STF139	8.2.5.8
GP-000035	Report on IETF AVT Working Group Meeting (Pittsburgh, PA on August 2-3, 2000) Regarding ETSI SMG2 #36 Tdoc SMG2 1137/00 "LS on RTP Encoding of GSM AMR Codec"	Nortel Networks	5.3

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Tdoc	Title	Source	Agenda Item
GP-000036	A Comparison Between GERAN Packet-Switched Call Setup Using SIP and GSM Circuit-Switched Call Setup Using RIL3-CC, RIL3-MM, RIL3-RR, and DTAP, Rev. 0.1	Nortel Networks	8.1.5.6, 8.2.5.6
GP-000037	A Comparison Between GERAN Packet-Switched Call Release Using SIP and GSM Circuit-Switched Call Release Using RIL3-CC, RIL3-MM, RIL3-RR, and DTAP	Nortel Networks	8.1.5.6, 8.2.5.6
GP-000038	A Comparison Between GERAN Packet-Switched Supplementary Services Using SIP and GSM Circuit-Switched Services Using RIL3-CC, RIL3-MM, RIL3-RR, and DTAP	Nortel Networks	8.1.5.6, 8.2.5.6
GP-000039	Options for Implementing GERAN Packet-Switched Call Setup, Supplementary Services, and Call Release Using SIP, Rev. 0.1	Nortel Networks	8.1.5.6, 8.2.5.6
GP-000040	PowerPoint Presentation: Options for Implementing GERAN Packet-Switched Call Setup, Supplementary Services, and Call Release Using SIP	Nortel Networks	8.1.5.6, 8.2.5.6
GP-000041	Expected Changes to GSM 05.02, 05.08, and 05.09 for GERAN Release 2000, Rev. 0.1	Nortel Networks	8.1.5.6
GP-000042	Packet Data Traffic Models for E-Mail (With and Without Attachments) and Streaming Multimedia Applications	Nortel Networks	8.1.5.6
GP-000043	GSM/EDGE Radio Access Network (GERAN) Real-Time Fast Associated Control Channel (RTFACCH) Simulations	Nortel Networks	8.1.5.6
GP-000044	PowerPoint Presentation: GSM/EDGE Radio Access Network (GERAN) Real-Time Fast Associated Control Channel (RTFACCH) Simulations	Nortel Networks	8.1.5.6
GP-000045	Concept paper about the use of different USF Granularities in the uplink and downlink	Siemens	8.2.5.12
GP-000046	CR 04.60-A874 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R97)	Nortel Networks	8.2.5.1
GP-000047	CR 04.60-A875 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R98)	Nortel Networks	8.2.5.1
GP-000048	CR 04.60-A876 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R99)	Nortel Networks	8.2.5.1
GP-000049	Report from ETSI SMG2 #36 WPC	TSG GERAN WG3 convenor	8.3.4.2
GP-000050	Numbering and status of specifications	TSG GERAN WG3 convenor	8.3.3
GP-000051	Proposed Liaison Statement to ETSI JWG-TC74 regarding TR 101 075	TSG GERAN WG3 convenor	8.3.8
GP-000052	Liaison Statement from ETSI ERM/EMC to TC SMG	TSG GERAN WG3 convenor	8.3.4.2

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Tdoc	Title	Source	Agenda Item
GP-000053	CR 11.21-A132 Correction of test case for Signal quality, EGPRS	Ericsson	8.3.6.3
GP-000054	CR 11.21-A133 Correction of spurious requirements in UMTS bands	Ericsson	8.3.6.8
GP-000055	Comments to Liaison Statement from ETSI ERM/EMC	Ericsson	8.3.5.1
GP-000056	CR 04.60-A845 rev 3 DTM: Exclusive allocation and other DTM alignments	Ericsson	8.2.5.1
GP-000057	Liaison statement to TC SMG 2; Removal of EM emission requirements from Draft EN 300 342-3 V1.2.1 (1999-12) - EMC for GSM and DCS base station equipment meeting Phase 2 and 2+ requirements	ETSI ERM	5.2, 8.3.4.2
GP-000058	PLMN search and access technology lists	ETSI Project "New SMG9"	5.2
GP-000059	Response to LS (R2-000945), LS TSG S1 (00) 103 on UE/MS idle mode operation and LS TSG S1 (00) 368 on PLMN selection	TSG-CN WG1	5.1
GP-000060	Response to LS on usage of terms GSM, UMTS and GERAN	TSG-CN WG1	5.1
GP-000061	Reply to LS on Correction for mobile stations staying in GMM READY virtually for ever	TSG-CN WG1	5.1
GP-000062	Liaison Statement on the introduction of 3G MS capabilities in MS classmark 3	TSG-CN WG1	5.1, 8.2.5.1
GP-000063	Reply to LS on “GPRS ciphering"	TSG-CN WG1	5.1
GP-000064	LS on 32 kbit/s UDI/RDI multimedia	TSG-CN WG3	5.1
GP-000065	Response to LS (R1-000798) on Neighbour Cell SFN detection for Handover'	TSG-RAN WG2	5.1
GP-000066	Response to liaison statement on support of AMR via Iu-ps in GERAN	TSG-RAN WG3	5.1
GP-000067	Response on LS on Neighbour Cell SFN Detection for Handover	TSG-RAN WG4	5.1
GP-000068	LS on interworking of low chiprate TDD with GSM, high chiprate TDD and FDD	TSG-RAN	5.1
GP-000069	LS to SMG2 on TR22.976	TSG-SA WG1	5.1
GP-000070	Answer to LS on Guidance on future work for T2 SWG5, Multi-mode terminals	TSG-SA WG2	5.1
GP-000071	Liaison Statement on “Two phase resource reservation”	TSG-SA WG2	5.1
GP-000072	LS on GERAN security issues	TSG-SA WG3	5.1

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Tdoc	Title	Source	Agenda Item
GP-000073	LS on Network Control of AMR Noise Suppressor	ETSI SMG11	5.1, 8.2.5.1, 8.2.5.11
GP-000074	LS to ETSI SMG2 on Wideband Speech	TSG-SA WG4	5.1
GP-000075	TS 43.059 ver. 0.0.1 Stage 2 Description of location Services in GERAN (R00)	Nokia	7.1, 8.1.5.9, 8.2.5.9
GP-000076	CR 04.35-A006 related to GPS Assistance Data Broadcast Message ciphering (R98)	Nokia	8.2.5.9
GP-000077	CR 04.35-A007 related to GPS Assistance Data Broadcast Message ciphering (R99)	Nokia	8.2.5.9
GP-000078	CR 04.71-A005 related to modifications of the RIT measurements (R98)	Nokia	8.2.5.9
GP-000079	CR 04.71-A006 related to modifications of the RIT measurements (R99)	Nokia	8.2.5.9
GP-000080	Meeting report from the 3GPP TSG GERAN Adhoc on release 2000 and beyond #1	Rapporteur	7.3
GP-000081	LS on inter-BSC hard handover in GERAN	GERAN Adhoc on release 2000 and beyond	7.3
GP-000082	LS on GERAN requirements for Mulitmedia control signalling	GERAN Adhoc on release 2000 and beyond	7.3
GP-000083	LS on GERAN MM, access rules and load sharing	GERAN Adhoc on release 2000 and beyond	7.3
GP-000084	10.99, V0.0.7	Rapporteur	7.3
GP-000085	Detailed planning for GERAN	GERAN Adhoc on release 2000 and beyond	6, 7.3, 10
GP-000086	Terms of references for TSG GERAN Adhoc meetings	Rapporteur	7.3
GP-000087	CR 05.05-A165 Introduction of GSM 700 in 05.05 GSM on 700 MHz Frequency Band (R00)	Ericsson	8.1.5.10
GP-000088	CR 05.05-A173 Clarification of BTS output power capability with 8PSK (R99)	Ericsson & Nokia	8.1.5.5
GP-000089	EGPRS and DTM'99	Nokia	7.2
GP-000090	CR 03.64-A073 DTM (R99)	Nokia	7.2, 8.1.5.1

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Tdoc	Title	Source	Agenda Item
GP-000091	CR 03.64-A074 DTM+EGPRS (R99)	Nokia	7.2, 8.1.5.1
GP-000092	CR 05.01-A028 DTM (R99)	Nokia	8.1.5.1
GP-000093	CR 05.01-A029 DTM+EGPRS (R99)	Nokia	8.1.5.1
GP-000094	CR 05.02-A162 DTM (R99)	Nokia	8.1.5.1
GP-000095	CR 04.18-A140 DTM+EGPRS (R99)	Nokia	8.2.5.1
GP-000096	CR 44.018-017 DTM+EGPRS (R00)	Nokia	8.2.5.1
GP-000097	CR 24.008-xxx DTM+EGPRS (R99)	Nokia	8.2.5.1
GP-000098	CR 05.05-A166 Definition of "small MS" (R97)	Ericsson	8.1.5.12
GP-000099	CR 05.05-A167 Definition of "small MS" (R98)	Ericsson	8.1.5.12
GP-000100	CR 05.05-A168 Definition of "small MS" (R99)	Ericsson	8.1.5.12
GP-000101	CR 05.08-A288 Clarifications on EGPRS Quality parameters (R99)	Ericsson	8.1.5.3
GP-000102	CR 05.08-A289 Editorial corrections (R99)	Ericsson	8.1.5.13
GP-000103	CR 05.08-A290 Clarifications of interference measurements for COMPACT (R99)	Ericsson	8.1.5.3
GP-000104	CR 05.08-A291 Corrections to Inter System Handover and Cell re-selection (R99)	Ericsson	8.1.5.2
GP-000105	CR 05.10-A059 Correction of assignment reaction time (R99)	Ericsson	8.1.5.1
GP-000106	CR 05.02-A163 Corrections to COMPACT (R99)	Ericsson	8.1.5.3
GP-000107	CR 05.02-A164 Removal of GPRS related text (R96)	Ericsson	8.1.5.13
GP-000108	CR 05.03-A042 Removal of GPRS related text (R96)	Ericsson	8.1.5.13
GP-000109	CR 05.05-A169 Removal of GPRS related text (R96)	Ericsson	8.1.5.13
GP-000110	CR 05.08-A292 Removal of GPRS related text (R96)	Ericsson	8.1.5.13
GP-000111	CR 05.10-A060 Removal of GPRS related text (R96)	Ericsson	8.1.5.13
GP-000112	GERAN Design	Lucent Technologies	8.2.5.6
GP-000113	GERAN RRC States	Lucent Technologies	8.2.5.6
GP-000114	Impacts of GERAN Protocol Architecture on GSM 04.60	Lucent Technologies	8.2.5.6
GP-000115	Fast Access for Short TBFs	Lucent Technologies	8.2.5.6
GP-000116	RLC with Limited Retransmissions for Streaming Service Class	Lucent Technologies	8.1.5.6
GP-000117	Conversational and Streaming RAB Realization	Lucent Technologies	8.1.5.6

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Tdoc	Title	Source	Agenda Item
GP-000118	Stealing Bit Options for OS2 Multiplexing	Lucent Technologies	8.1.5.6
GP-000119	Potential R2001 Capacity Enhancing Features	Lucent Technologies	8.1.5.6
GP-000120	Performance Studies of Space-Time Coding for EGPRS	Lucent Technologies	8.1.5.6
GP-000121	CR 04.18-A127 DTM: Removal of polling from DTM assignment (R99)	Ericsson	8.2.5.1
GP-000122	CR 44.018-004 DTM: Removal of polling from DTM assignment (R00)	Ericsson	8.2.5.1
GP-000123	CR 04.18-A128 DTM: Correction of timers T3148 and T3107 (R99)	Ericsson	8.2.5.1
GP-000124	CR 44.018-005 DTM: Correction of timers T3148 and T3107 (R00)	Ericsson	8.2.5.1
GP-000125	Handover and Cell Reselection from GSM to UTRA Low Chip Rate TDD	Siemens	7.5
GP-000126	Dual Transfer Mode: concept document	Vodafone	8.1.5.1, 8.2.5.1
GP-000127	CR 04.18-A129 DTM: tunnelling of GPRS signalling on the main DCCH (R99)	Nokia / Vodafone	8.2.5.1
GP-000128	CR 44.018-006 DTM: tunnelling of GPRS signalling on the main DCCH (R00)	Nokia / Vodafone	8.2.5.1
GP-000129	CR 08.18-A104 DTM: tunnelling of GPRS signalling on the main DCCH (R99)	Nokia / Vodafone	8.2.5.1
GP-000130	CR 23.060-xxx DTM: simultaneous LAU and RAU procedures on an SDCCH (R99)	Vodafone	8.2.5.1
GP-000131	CR 04.60-A877 DTM: cell support indication (R99)	Vodafone	8.2.5.1
GP-000132	CR 04.18-A130 DTM: provision of GPRS information for correct DTM behaviour (R99)	Vodafone	8.2.5.1
GP-000133	CR 44.018-007 DTM: provision of GPRS information for correct DTM behaviour (R00)	Vodafone	8.2.5.1
GP-000134	CR 23.060-xxx DTM: download of the IMSI from the SGSN to the BSC (R99)	Vodafone	8.2.5.1
GP-000135	CR 08.18-A105 DTM: download of the IMSI from the SGSN to the BSC	Vodafone	8.2.5.1
GP-000136	CR 23.060-xxx DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)	Vodafone	8.2.5.1
GP-000137	CR 04.18-A131 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)	Vodafone	8.2.5.1

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GP-000138	CR 44.018-008 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R00)	Vodafone	8.2.5.1
GP-000139	CR 08.18-A106 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities	Vodafone	8.2.5.1
GP-000140	CR 08.08-A212 DTM: correction to DTM information in Old BSS to new BSS Information IE (R99)	Vodafone	8.2.5.1
GP-000141	CR 48.008-004 DTM: correction to DTM information in Old BSS to new BSS Information IE (R00)	Vodafone	8.2.5.1
GP-000142	CR 04.18-A132 DTM: alignment of the handover procedure (R99)	Vodafone	8.2.5.1
GP-000143	CR 44.018-009 DTM: alignment of the handover procedure (R00)	Vodafone	8.2.5.1
GP-000144	CR 04.18-A133 DTM: clarification of Radio Link Failure and RR connection abortion while in DTM (R99)	Vodafone	8.2.5.1
GP-000145	CR 44.018-010 DTM: clarification of Radio Link Failure and RR connection abortion while in DTM (R00)	Vodafone	8.2.5.1
GP-000146	CR 04.18-A134 DTM: removal of the Main DCCH Assignment message (R99)	Vodafone	8.2.5.1
GP-000147	CR 44.018-011 DTM: removal of the Main DCCH Assignment message (R00)	Vodafone	8.2.5.1
GP-000148	CR 08.08-A213 DTM: deletion of reference to PDSS2 (R99)	Vodafone	8.2.5.1
GP-000149	CR 48.008-005 DTM: deletion of reference to PDSS2 (R00)	Vodafone	8.2.5.1
GP-000150	CR 04.18-A135 DTM: definition (R99)	Vodafone	8.2.5.1
GP-000151	CR 44.018-012 DTM: definition (R00)	Vodafone	8.2.5.1
GP-000152	CR 08.08-A214 DTM: clarification of the use of the COMMOM ID message (R99)	Vodafone	8.2.5.1
GP-000153	CR 48.008-006 DTM: clarification of the use of the COMMOM ID message (R00)	Vodafone	8.2.5.1
GP-000154	CR 03.64-A075 DTM: alignments (R99)	Vodafone	8.1.5.1
GP-000155	CR 04.18-A136 Support of 11 bits request reference in IA and IAR messages (R99)	Alcatel	8.2.5.3
GP-000156	CR 44.018-013 Support of 11 bits request reference in IA and IAR messages (R00)	Alcatel	8.2.5.3
GP-000157	CR 04.60-A878 Editorial correction on cell reselection (R99)	Alcatel	8.2.5.1
GP-000158	CR 04.60-A879 CV within radio block made of 2 RLC data blocks (R99)	Alcatel	8.2.5.3

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GP-000159	Coding Scheme Comparison for GERAN	Ericsson	8.1.5.6
GP-000160	Expected changes in 05.01, 03 and 05 due to GERAN R'00	Ericsson	8.1.5.6
GP-000161	8PSK HR Voice Bearer performance	Ericsson	8.1.5.6
GP-000162	Legacy transceivers	Ericsson	8.1.5.6
GP-000163	MS Modes of Operation	Ericsson	8.2.5.6
GP-000164	Proposed GERAN protocol architecture	Ericsson	8.2.5.6
GP-000165	Signalling for header removal in GERAN	Ericsson	8.2.5.6
GP-000166	Fast Access based on Access Request Identifier	Ericsson	8.2.5.6
GP-000167	RAB design based on ECSD	Ericsson	8.1.5.6
GP-000168	RLC/MAC PDU formats	Ericsson	8.2.5.6
GP-000169	Reduction of the service outage time at Cell reselection in GPRS/EDGE/GERAN	Ericsson	8.1.5.6, 8.2.5.6
GP-000170	RAB assignment procedure	Ericsson	8.2.5.6
GP-000171	RRC connection establishment procedure	Ericsson	8.2.5.6
GP-000172	Proposed changes to draft LCS Stage 2 spec in GERAN (R00)	Qualcomm	8.1.5.9
GP-000173	CR 08.08-A215 32 kbit/s UDI/RDI multimedia in GSM (R99)	Nokia	8.2.5.12
GP-000174	CR 48.008-007 32 kbit/s UDI/RDI multimedia in GSM (R00)	Nokia	8.2.5.12
GP-000175	CR 08.08-A216 Correction of Signalling Field Element Coding (R99)	Nokia	8.2.5.2
GP-000176	CR 48.008-008 Correction of Signalling Field Element Coding (R00)	Nokia	8.2.5.2
GP-000177	CR 08.08-A217 Source Identification (R99)	Nokia	8.2.5.2
GP-000178	CR 48.008-009 Source Identification (R00)	Nokia	8.2.5.2
GP-000179	CR 04.18-A137 DTM: GPRS information for DTM operation - TBF re-establishment (R99)	Ericsson	8.2.5.1
GP-000180	CR 44.018-014 DTM: GPRS information for DTM operation - TBF re-establishment (R00)	Ericsson	8.2.5.1
GP-000181	CR 04.60-A880 DTM: GPRS information for DTM operation - TBF re-establishment (R99)	Ericsson	8.2.5.1
GP-000182	CR 04.60-A881 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R97)	Ericsson	8.2.5.1
GP-000183	CR 04.60-A882 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R98)	Ericsson	8.2.5.1

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GP-000184	CR 04.60-A883 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R99)	Ericsson	8.2.5.1
GP-000185	CR 04.18-A138 Correction of Table 10.5.60/GSM 04.18 (R99)	Ericsson	8.2.5.1
GP-000186	CR 44.018-015 Correction of Table 10.5.60/GSM 44.018 (R00)	Ericsson	8.2.5.1
GP-000187	CR 04.60-A884 Correction of Packet PDCH Release procedure (TIMESLOT_ALLOCATION) (R99)	Ericsson	8.2.5.1
GP-000188	CR 04.60-A885 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R97)	Ericsson	8.2.5.1
GP-000189	CR 04.60-A886 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R98)	Ericsson	8.2.5.1
GP-000190	CR 04.60-A887 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R99)	Ericsson	8.2.5.1
GP-000191	CR 04.18-A139 Interpretation addition of CELL_BAR_QUALIFY_2 value (R99)	Ericsson	8.2.5.1
GP-000192	CR 44.018-016 Interpretation addition of CELL_BAR_QUALIFY_2 value (R00)	Ericsson	8.2.5.1
GP-000193	CR 04.60-A888 Addition of CELL_BAR_QUALIFY_2 in neighbour cell descriptions	Ericsson	8.2.5.1
GP-000194	Maximum bit rate indication for radio interface	Motorola, Nokia, Mitsubishi, BT-Cellnet	8.1.5.3
GP-000195	CR 05.02-A165 Editorial corrections related to COMPACT (R99)	Motorola	8.1.5.3
GP-000196	CR 05.02-A166 Maximum bit rate indication for radio interface (R99)	Motorola, Nokia, Mitsubishi, BT-Cellnet	8.1.5.3
GP-000197	CR 04.60-A889 Correction of COMPACT neighbour cells description in PSI3bis (R99)	Motorola	8.2.5.3
GP-000198	CR 04.60-A891 Correction on I_LEVEL_TN(R99)	Motorola	8.2.5.3
GP-000199	CR 04.60-A892 Maximum bit rate indication for radio interface (R99)	Motorola, Nokia, Mitsubishi, BT-Cellnet	8.2.5.3
GP-000200	CR 24.008-xxx "Maximum bit rate indication for radio interface (for information) (R99)	Motorola, Nokia, Mitsubishi, BT-Cellnet	8.2.5.3
GP-000201	Pre-configuration concept : Proposed corrections (GSM to UMTS handover)	Vodafone	7.5
GP-000202	Pre-configuration downloads : Allowing Mobile Terminated Calls and preventing MM RR Connection Release	Vodafone	7.5

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GP-000203	CR 04.60-A893 CSN1 backward compatibility corrections (R98)	Vodafone	8.2.5.7
GP-000204	CR 04.18-A142 SI2ter bit map correction (R99)	Vodafone	8.2.5.2
GP-000205	CR 44.018-019 SI2ter bit map correction (R00)	Vodafone	8.2.5.2
GP-000206	CR 04.18-A143 SI2quater updates to allow GPRS->UMTS Cell-Reselection (R99)	Vodafone	8.2.5.2
GP-000207	CR 44.018-020 SI2quater updates to allow GPRS->UMTS Cell-Reselection (R00)	Vodafone	8.2.5.2
GP-000208	CR 04.60-A894 GPRS->UMTS Cell-Reselection (R99)	Vodafone	8.2.5.2
GP-000209	CR 04.18-A144 Detailed coding modifications for the pre-configurations (R99)	Vodafone	8.2.5.2
GP-000210	CR 44.018-021 Detailed coding modifications for the pre-configurations (R00)	Vodafone	8.2.5.2
GP-000211	CR 04.18-A145 Allowing MT calls when downloading pre-configurations (R99)	Vodafone	8.2.5.2
GP-000212	CR 44.018-022 Allowing MT calls when downloading pre-configurations (R00) WITHDRAWN	Vodafone	8.2.5.2
GP-000213	CR 04.18-A146 Handover to UMTS description procedure including "blind handover" to UMTS	Vodafone	8.2.5.2
GP-000214	CR 44.018-023 Handover to UMTS description procedure including "blind handover" to UMTS	Vodafone	8.2.5.2
GP-000215	CR 04.60-A890 Miscellaneous corrections on packet access and message coding (R99)	Motorola	8.2.5.1
GP-000216	Proposals for GERAN shared MAC mode in R00	Alcatel	8.1.5.6, 8.2.5.6
GP-000217	Proposals for GERAN MAC Layer in R01 WITHDRAWN	Alcatel	8.1.5.6, 8.2.5.6
GP-000218	RRC states	Ericsson	8.2.5.6
GP-000219	GSM 400 system; Compatibility considerations	Nokia	7.6
GP-000220	CR 05.10-A061 Addition of the switching requirement for the GSM to UTRAN (R99)	Nokia	8.1.5.2
GP-000221	CR 03.22-A050 GSM 700 spectrum update (R00)	Nokia	8.1.5.10
GP-000222	CR 03.30-A011 GSM 700 cell sizes and RF budgets (R00)	Nokia	8.1.5.10
GP-000223	CR 05.01-A030 Introduction of GSM 700 in 05.01 (R00)	Nokia	8.1.5.10
GP-000224	CR 05.08-A293 GSM 700 bands introduced in 05.08 (R00)	Nokia	8.1.5.10

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GP-000225	CR 24.008-xxx GSM 700 addition into MS classmark & radio access capability IE (R00)	Nokia	8.2.5.10
GP-000226	GERAN cells using discontinuous broadcast	Motorola	8.1.5.6
GP-000227	Answer to Proposal of exchange of the terms “in GSM” and “in UMTS”	TSG CN WG1	5.1
GP-000228	Questions on Behaviour in the “forward handover” scenario without an Iur in Release ‘99	TSG RAN WG3	5.1
GP-000229	CR 08.08-A219 Correction on LCS message coding (R98)	Ericsson	8.2.5.9
GP-000230	CR 08.08-A220 Correction on LCS message coding (R99)	Ericsson	8.2.5.9
GP-000231	CR 48.008-011 Correction on LCS message coding (R00)	Ericsson	8.2.5.9
GP-000232	CR 08.08-A223 CIC allocation correction (R99) WITHDRAWN	Ericsson	8.2.5.13
GP-000233	CR 48.008-012 CIC allocation correction (R00) WITHDRAWN	Ericsson	8.2.5.13
GP-000234	CR 04.18-A148 Handover to UTRAN Command message format (R99)	Ericsson	8.2.5.2
GP-000235	CR 44.018-025 Handover to UTRAN Command message format (R00)	Ericsson	8.2.5.2
GP-000236	CR 04.18-A149 RAB pre-configuration (R99)	Ericsson	8.2.5.2
GP-000237	CR 44.018-026 RAB pre-configuration (R00)	Ericsson	8.2.5.2
GP-000238	RAB Pre-Configuration concept	Ericsson	8.2.5.2
GP-000239	Header Stripping Save Spectrum with PC Based Voice Service WITHDRAWN	AT&T Wireless Services	8.1.5.6
GP-000240	Fast Uplink Power Control for EGPRS	Siemens	8.1.5.12
GP-000241	Validation of Handset Antenna Test Methods	Telia	8.1.5.8
GP-000242	03.51 GERAN Stage 2 description	Nokia	7.3
GP-000243	Analysis of SIP signalling over GERAN Radio Interface	Nokia	8.1.5.6, 8.2.5.6
GP-000244	Common View on Header Adaptation definitions	Nokia, Ericsson, Lucent, Nortel, Siemens	8.1.5.6
GP-000245	Fast Access Scheme for GERAN	Nokia	8.2.5.6
GP-000246	MAC Design for GERAN'00	Nokia	8.2.5.6
GP-000247	RLC Design for GERAN'00	Nokia	8.2.5.6
GP-000248	Alternative Approaches for GERAN RLC and MAC	Nokia	8.2.5.6

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GP-000249	Analysis of GERAN'00 RR Functionality	Nokia	8.2.5.6
GP-000250	GERAN'00 RRC States and RRC Connection Mobility	Nokia	8.2.5.6
GP-000251	Proposal for RRC Description to GERAN Stage 2	Nokia	8.2.5.6
GP-000252	Handover and Cell Reselection Concepts for GERAN WITHDRAWN	Nokia	8.2.5.6
GP-000253	Realization and Channel Coding of new AMR Bearers	Nokia	8.1.5.6
GP-000254	Multiplexing on Dedicated Physical SubCHannel	Nokia	8.1.5.6
GP-000255	Streaming Radio Access Bearer	Nokia	8.1.5.6
GP-000256	Performance Analysis of Quarter Rate Channels	Nokia	8.1.5.6
GP-000257	AMR Speech Codec in 8PSK Half Rate Channel	Nokia	8.1.5.6
GP-000258	CR 04.60-A895 Correction to EGPRS OPA contention resolution	Nokia	8.2.5.3
GP-000259	CR 04.18-A150 Editorial correction on RR Packet Uplink/Downlink Assigment (R99)	Nokia	8.2.5.1
GP-000260	CR 44.018-027 Editorial correction on RR Packet Uplink/Downlink Assigment (R00)	Nokia	8.2.5.1
GP-000261	CR 04.60-A896 Alignment of abnormal cases (R99)	Nokia	8.2.5.1
GP-000262	Reply to LS on Guidance on future work for T2 SWG5, Multi-mode terminals	TSG-SA WG1	5.1
GP-000263	CR 08.58-A054 Correction to Channel Mode IE (R99)	Nokia	8.2.5.12
GP-000264	Proposed Answer to LS on 32 kbit/s UDI/RDI multimedia	Nokia	8.2.5.12
GP-000265	DRAFT (proposed) Liaison Statement on preventing unciphered writing/overwritting of pre-configuration fields by the HPLMN	Vodafone	8.2.5.2
GP-000266	CR 04.18-A141 Correction on Measurement Info Message (R99)	Nortel Networks	8.2.5.2
GP-000267	CR 44.018-018 Correction on Measurement Info Message (R00)	Nortel Networks	8.2.5.2
GP-000268	CR 08.08-A218 Various corrections about Intersystem HO(R99)	Nortel Networks	8.2.5.2
GP-000269	CR 48.008-010 Various corrections about Intersystem HO(R00)	Nortel Networks	8.2.5.2
GP-000270	CR 04.18-A147 Correction on UTRAN classmark change procedure (R99)	Nortel Networks	8.2.5.2
GP-000271	CR 44.018-024 Correction on UTRAN classmark change procedure (R00	Nortel Networks	8.2.5.2
GP-000272	Initial requirements for legacy transceivers	Nortel Networks	8.1.5.6

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GP-000273	CR 05.08-A294 BTS RF power control (R97)	Alcatel	8.1.5.1
GP-000274	CR 05.08-A295 BTS RF power control (R98)	Alcatel	8.1.5.1
GP-000275	CR 05.08-A296 BTS RF power control (R99)	Alcatel	8.1.5.1
GP-000276	CR 11.21-A134 Correction of Blocking and AM suppression test case in GSM11.21	Nokia	8.3.5.1
GP-000277	GSM/EDGE Radio Access Network Technical Specification Group (TSG-GERAN) Terms of Reference	3GPP OP	3
GP-000278	Proposed GSM/EDGE Radio Access Network Technical Specification Group Working Group 1 Radio Aspects (TSG-GERAN WG1 Radio Aspescts) Terms of Reference	3GPP TSG GERAN Convenor	4
GP-000279	Proposed GSM/EDGE Radio Access Network Technical Specification Group Working Group 2 Protocol Aspects TSG-GERAN WG2 Protocol Aspects) Terms of Reference	3GPP TSG GERAN Convenor	4
GP-000280	Proposed GSM/EDGE Radio Access Network Technical Specification Group Working Group 3 Base Station Testing and O&M (TSG-GERAN WG3 Base Station Testing and O&M) Terms of Reference	3GPP TSG GERAN Convenor	4
GP-000281	Proposed GSM/EDGE Radio Access Network Technical Specification Group Working Group 4 Terminal Testing (TSG-GERAN WG4 Terminal Testing) Terms of Reference	3GPP TSG GERAN Convenor	4
GP-000282	Draft Principles of 3GPP Work Planning - Release Mechanisms	3GPP TSG-SA Planning Ad-hoc	5.1
GP-000283	Draft Framework for planned content of next Release	3GPP TSG-SA Planning Ad-hoc	5.1
GP-000284	3GPP Work Planning for IM SubSystem	3GPP TSG-SA Planning Ad-hoc	5.1
GP-000285	Proposed GSM/EDGE Radio Access Network Technical Specification Group Working Group 1 Radio Aspects (TSG-GERAN WG1 Radio Aspescts) Terms of Reference	3GPP TSG GERAN Convenor	4
GP-000286	CR 08.08-A224 Old to new BSS container (R99)	Ericsson	8.2.5.2
GP-000287	CR 48.008-013 Old to new BSS container (R00)	Ericsson	8.2.5.2
GP-000288	CR 04.18-A151 UE Security in UTRAN CM CHANGE (R99)	Ericsson	8.2.5.2
GP-000289	CR 44.018-028 UE Security in UTRAN CM CHANGE (R00)	Ericsson	8.2.5.2
GP-000290	Response Liaison Statement (R3-002198) on Directed signaling connection re-establishment at RRC	3GPP TSG RAN WG2	5.1
GP-000291	CR 05.09-A009 ACS changes (R98)	Nortel Networks	8.1.5.11
GP-000292	CR 05.09-A010 ACS changes (R99)	Nortel Networks	8.1.5.11

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GP-000293	CR 05.09-A011 RATSCCH Mapping (R98)	Nortel Networks	8.1.5.11
GP-000294	CR 05.09-A012 RATSCCH Mapping (R99)	Nortel Networks	8.1.5.11
GP-000295	Error Patterns and Error Insertion Device for EDGE circuits	Nortel Networks	8.1.5.11
GP-000296	Terms of references for TSG GERAN Adhoc meetings	TSG GERAN	10
GP-000297	LS on inter-BSC hard handover in GERAN	TSG GERAN	8.1.5.6
GP-000298	LS on GERAN requirements for Mulitmedia control signalling	TSG GERAN	8.1.5.6
GP-000299	LS on GERAN MM, access rules and load sharing	TSG GERAN	8.2.5.6
GP-000300	TBF Release procedure improvements	Nokia	8.2.5.1
GP-000301	CR 04.60-A897 Delaying the final Packet Uplink Ack/Nack (R99)	Nokia	8.2.5.1
GP-000302	CR 04.60-A898 Polling GPRS MS for uplink data after downlink TBF release (R99)	Nokia	8.2.5.1
GP-000303	CR 04.60-A881 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R97)	Ericsson	8.2.5.1
GP-000304	CR 04.60-A882 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R98)	Ericsson	8.2.5.1
GP-000305	CR 04.60-A883 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R99)	Ericsson	8.2.5.1
GP-000306	CR 04.18-A150 rev 1 Editorial correction on RR Packet Uplink/Downlink Assigment (R99)	Nokia	8.2.5.1
GP-000307	CR 44.018-027 rev 1 Editorial correction on RR Packet Uplink/Downlink Assigment (R00)	Nokia	8.2.5.1
GP-000308	CR 04.60-A890 rev 1 Miscellaneous corrections on packet access and message coding (R99)	Motorola	8.2.5.1
GP-000309	CR 08.18-A107 Gb Interface: BSS Packet Flow Context Procedures (R99)	Motorola	8.2.5.1
GP-000310	CR 04.60-A899 Correction of Packet Flow Context Procedures (R99)	Motorola	8.2.5.1
GP-000311	CR 04.60-A896 rev 1 Alignment of abnormal cases (R99)	Nokia	8.2.5.1
GP-000312	Dual Transfer Mode: concept document	Vodafone	8.2.5.1
GP-000313	CR 04.18-A144 rev 1 Detailed coding modifications for the pre-configurations (R99)	Vodafone	8.2.5.2
GP-000314	CR 04.18-A130 rev 1 DTM: provision of GPRS information for correct DTM behaviour (R99)	Vodafone	8.2.5.1
GP-000315	CR 44.018-007 rev 1 DTM: provision of GPRS information for correct DTM behaviour (R00)	Vodafone	8.2.5.1

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Tdoc	Title	Source	Agenda Item
GP-000316	CR 23.060-xxx DTM: download of the IMSI from the SGSN to the BSC (R99)	Vodafone	8.2.5.1
GP-000317	CR 04.18-A131 rev 1 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)	Vodafone	8.2.5.1
GP-000318	CR 44.018-008 rev 1 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R00)	Vodafone	8.2.5.1
GP-000319	CR 23.060-xxx DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)	Vodafone	8.2.5.1
GP-000320	CR 04.60-A880 rev 1 DTM: GPRS information for DTM operation - TBF re-establishment (R99)	Ericsson	8.2.5.1
GP-000321	CR 05.05-A170 Correction on CS-4 performance requirements (R97)	Alcatel	8.1.5.1
GP-000322	CR 05.05-A171 Correction on CS-4 performance requirements (R98)	Alcatel	8.1.5.1
GP-000323	CR 05.05-A172 Correction on CS-4 performance requirements (R99)	Alcatel	8.1.5.1
GP-000324	Proposals for improving Gb/IP	Nokia	8.2.5.12
GP-000325	CR 05.08-A296 rev 1 BTS RF power control (R99)	Alcatel	8.1.5.1
GP-000326	CR 03.64-A073 rev 1 DTM (R99)	Nokia	8.1.5.1
GP-000327	CR 03.64-A075 rev 1 DTM: alignments (R99)	Vodafone	8.1.5.1
GP-000328	CR 05.08-A297 Correction to measurement reporting for DTM (R99)	Motorola	8.1.5.1
GP-000329	CR 05.08-A298 Corrections to BSIC decoding (R99)	Motorola	8.1.5.1
GP-000330	CR 05.08-A291 rev 1 Corrections to Inter System Handover and Cell re-selection (R99)	Ericsson	8.1.5.2
GP-000331	CR 03.22-A049 rev 1 Check selected cell deduced by SI10 information with SI3 ones (R00)	TSG GERAN WG1	8.1.5.13
GP-000332	CR 05.08-A284 rev 1 Extended measurement report (MAFA) (R96)	Siemens	8.1.5.13
GP-000333	CR 05.08-A285 rev 1 Extended measurement report (MAFA) (R97)	Siemens	8.1.5.13
GP-000334	CR 05.08-A286 rev 1 Extended measurement report (MAFA) (R98)	Siemens	8.1.5.13
GP-000335	CR 05.08-A287 rev 1 Extended measurement report (MAFA) (R99)	Siemens	8.1.5.13
GP-000336	CR 05.08-A289 rev 1 Editorial corrections (R99)	Ericsson	8.1.5.13

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Tdoc	Title	Source	Agenda Item
GP-000337	CR 04.18-A134 rev 1 DTM: removal of the Main DCCH Assignment message (R99)	Vodafone	8.2.5.1
GP-000338	CR 44.018-011 rev 1 DTM: removal of the Main DCCH Assignment message (R00)	Vodafone	8.2.5.1
GP-000339	CR 08.08-A214 rev 1 DTM: clarification of the use of the COMMOM ID message (R99)	Vodafone	8.2.5.1
GP-000340	CR 48.008-006 rev 1 DTM: clarification of the use of the COMMOM ID message (R00)	Vodafone	8.2.5.1
GP-000341	CR 04.60-A845 rev 4 DTM: Exclusive allocation and other DTM alignments	Ericsson	8.2.5.1
GP-000342	CR 04.18-A128 rev 1 DTM: Correction of timers T3148 and T3107 (R99)	Ericsson	8.2.5.1
GP-000343	CR 44.018-005 rev 1 DTM: Correction of timers T3148 and T3107 (R00)	Ericsson	8.2.5.1
GP-000344	LS to CN1 on CR 24.000-xxx DTM+EGPRS (GP-000097) WITHDRAWN	Nokia	8.2.5.1
GP-000345	CR 08.08-A217 rev 1 Source Identification (R99)	Nokia	8.2.5.2
GP-000346	CR 48.008-009 rev 1 Source Identification (R00)	Nokia	8.2.5.2
GP-000347	CR 04.60-A894 rev 1 GPRS->UMTS Cell-Reselection (R99)	Vodafone	8.2.5.2
GP-000348	CR 04.18-A149 rev 1 RAB pre-configuration (R99)	Ericsson	8.2.5.2
GP-000349	CR 44.018-026 rev 1 RAB pre-configuration (R00)	Ericsson	8.2.5.2
GP-000350	CR 04.18-A151 rev 1 UE Security in UTRAN CM CHANGE (R99)	Ericsson	8.2.5.2
GP-000351	CR 44.018-028 rev 1 UE Security in UTRAN CM CHANGE (R00)	Ericsson	8.2.5.2
GP-000352	Load sharing mechanism between the 2G and 3G GERAN - CN interfaces	E-plus	8.2.5.2
GP-000353	CR 04.18-A147 rev 1 Correction on UTRAN classmark change procedure (R99)	Nortel Networks	8.2.5.2
GP-000354	CR 44.018-024 rev 1 Correction on UTRAN classmark change procedure (R00	Nortel Networks	8.2.5.2
GP-000355	LS to SA2 on 23.060 CRs for Dual Transfer Mode	GERAN WG2	8.2.5.1
GP-000356	CR 04.18-A146 rev 1 Handover to UMTS description procedure including "blind handover" to UMTS	Vodafone	8.2.5.2
GP-000357	CR 44.018-023 rev 1 Handover to UMTS description procedure including "blind handover" to UMTS	Vodafone	8.2.5.2

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Tdoc	Title	Source	Agenda Item
GP-000358	CR 04.18-A152 Noise suppression control for AMR	BellSouth, DT, BT, FT	8.2.5.11
GP-000359	CR 44.018-029 Noise suppression control for AMR	BellSouth, DT, BT, FT	8.2.5.11
GP-000360	CR 04.08-A728 rev 1 Extended measurement report (MAFA) (R96)	Siemens	8.2.5.13
GP-000361	CR 05.08-A288 rev 1 Clarifications on EGPRS Quality parameters (R99)	Ericsson	8.1.5.3
GP-000362	CR 05.08-A290 rev 1 Clarifications of interference measurements for COMPACT (R99)	Ericsson	8.1.5.3
GP-000363	CR 05.05-A173 rev 1 Clarification of BTS output power capability with 8PSK (R99)	Ericsson & Nokia	8.1.5.5
GP-000364	CR 05.08-A298 rev 1 Corrections to BSIC decoding (R99)	Motorola	8.1.5.1
GP-000365	CR 11.21-A134 rev 1 Correction of Blocking and AM suppression test case in GSM11.21	Nokia	8.3.5.1
GP-000366	CR 11.21-A131 rev 1 Changes in clause 7 due to EDGE and GSM 05.01	Siemens	8.3.6.3
GP-000367	CR 11.21-A132 rev 1 Correction of test case for Signal quality, EGPRS	Ericsson	8.3.6.3
GP-000368	CR 11.21-A133 rev 1 Correction of spurious requirements in UMTS bands.	Ericsson	8.3.6.8
GP-000369	Draft Report TSG GERAN #1 WG3	TSG GERAN WG3 Convenor	9.3.1
GP-000370	CR 05.05-A165 rev 1 Introduction of GSM 700 in 05.05 GSM on 700 MHz Frequency Band (R00)	Ericsson	8.1.5.10
GP-000371	CR 05.05-A166 rev 1 Definition of "small MS" (R97)	Ericsson	8.1.5.12
GP-000372	CR 05.05-A167 rev 1 Definition of "small MS" (R98)	Ericsson	8.1.5.12
GP-000373	CR 05.05-A168 rev 1 Definition of "small MS" (R99)	Ericsson	8.1.5.12
GP-000374	LS on inter-BSC hard handover in GERAN	TSG GERAN	8.1.5.6
GP-000375	Work item description for wide band AMR support in GERAN	Bell South	8.1.5.11
GP-000376	Proposed Change to Stage 2 Description generic Conversational and Streaming RAB Realisation	Drafting group	8.1.5.6
GP-000377	Proposed Change to Stage 2 Description Protocol architecture	Drafting group	8.2.5.6
GP-000378	CR 04.08-A730 rev 1 Extended measurement report (MAFA) (R97)	Siemens	8.2.5.13

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Tdoc	Title	Source	Agenda Item
GP-000379	CR 04.08-A732 rev 1 Extended measurement report (MAFA) (R98)	Siemens	8.2.5.13
GP-000380	CR 04.18-A126 rev 1 Extended measurement report (MAFA) (R99)	Siemens	8.2.5.13
GP-000381	CR 44.018-002 rev 1 Extended measurement report (MAFA) (R00)	Siemens	8.2.5.13
GP-000382	CR 08.08-A215 rev 1 32 kbit/s UDI/RDI multimedia in GSM (R99)	Nokia	8.2.5.12
GP-000383	CR 48.008-007 rev 1 32 kbit/s UDI/RDI multimedia in GSM (R00)	Nokia	8.2.5.12
GP-000384	Proposed Answer to LS on 32 kbit/s UDI/RDI multimedia	Nokia	8.2.5.12
GP-000385	CR 04.18-A142 rev 1 SI2ter bit map correction (R99)	Vodafone	8.2.5.2
GP-000386	CR 44.018-019 rev 1 SI2ter bit map correction (R00)	Vodafone	8.2.5.2
GP-000387	CR 04.18-A148 rev 1 Handover to UTRAN Command message format (R99) WITHDRAWN	Ericsson	8.2.5.2
GP-000388	CR 44.018-025 rev 1 Handover to UTRAN Command message format (R00) WITHDRAWN	Ericsson	8.2.5.2
GP-000389	CR 04.18-A136 rev 1 Support of 11 bits request reference in IA and IAR messages (R99)	Alcatel	8.2.5.3
GP-000390	CR 44.018-013 rev 1 Support of 11 bits request reference in IA and IAR messages (R00)	Alcatel	8.2.5.3
GP-000391	CR 04.60-A879 rev 1 CV within radio block made of 2 RLC data blocks (R99) WITHDRAWN	Alcatel	8.2.5.3
GP-000392	CR 04.60-A888 rev 1 Addition of CELL_BAR_QUALIFY_2 in neighbour cell descriptions	Ericsson	8.2.5.3
GP-000393	CR 09.31-A017 rev 1 Subject: Geographic Shape Restriction in LCS (R98)	Siemens	8.2.5.9
GP-000394	CR 09.31-A018 rev 1 Subject: Geographic Shape Restriction in LCS (R99)	Siemens	8.2.5.9
GP-000395	CR 08.08-A210 rev 1 Subject: Geographic Shape Restriction in LCS (R98)	Siemens	8.2.5.9
GP-000396	Proposed Liaison Statement on the introduction of EGPRS for DTM	Nokia	8.2.5.1
GP-000397	Concept paper for Leaky Bucket Synchronization in BSSGP	Motorola	8.2.5.1
GP-000398	CR 08.18-A108 Leaky bucket synchronization in BSSGP	Motorola	8.2.5.1
GP-000399	CR 04.71-A005 rev 1 related to modifications of the RIT measurements (R98) WITHDRAWN	Nokia	8.2.5.9

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Tdoc	Title	Source	Agenda Item
GP-000400	CR 04.71-A006 rev 1 related to modifications of the RIT measurements (R99) WITHDRAWN	Nokia	8.2.5.9
GP-000401	Detailed planning for GERAN	Drafting group	8.1.5.6, 8.2.5.6
GP-000402	SACCH design for QR Channel	Nortel Networks	8.1.5.6
GP-000403	Proposed Work Item: Handover and Cell Selection/Reselection to UTRA low chip rate TDD	Siemens	8.1.5.2
GP-000404	Proposal for Header Adaptation Definitions	Drafting group	8.1.5.6
GP-000405	TS 43.059 ver. 0.0.2 Stage 2 Description of location Services in GERAN (R00)	Nokia	8.2.5.9
GP-000406	Open issues in LCS description stage 2 for R00	Nokia	8.2.5.9
GP-000407	CR 04.60-A885 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R97)	Ericsson	8.2.5.1
GP-000408	CR 04.60-A886 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R98)	Ericsson	8.2.5.1
GP-000409	CR 04.60-A887 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R99)	Ericsson	8.2.5.1
GP-000410	CR 04.60-A900 Clarification of assembling convention for RLC/MAC control blocks	Ericsson	8.2.5.1
GP-000411	CR 04.18-A144 rev 2 Detailed coding modifications for the pre-configurations (R99)	Vodafone	8.2.5.2
GP-000412	CR 44.018-021 rev 1 Detailed coding modifications for the pre-configurations (R00)	Vodafone	8.2.5.2
GP-000413	Proposed change to GERAN Stage 2 for Fast Access	Nokia, AT&T, Ericsson, Lucent, Siemens	8.2.5.6
GP-000414	Response to LS from CN WG1 on Proposal of exchange of terms “in GSM” and “in UMTS”	TSG GERAN WG2	5.1
GP-000415	CR 08.08-A224 rev 1 Old to new BSS container (R99) WITHDRAWN	Ericsson	8.2.5.2
GP-000416	CR 48.008-013 rev 1 Old to new BSS container (R00) WITHDRAWN	Ericsson	8.2.5.2
GP-000417	CR 24.008-xxx GSM 700 addition into MS classmark & radio access capability IE (R00)	Nokia	8.2.5.10
GP-000418	Draft LS on GSM 700 addition into MS classmark & radio access capability IE	Nokia	8.2.5.10
GP-000419	CR 04.60-A899 rev 1 Correction of Packet Flow Context Procedures (R99)	Motorola	8.2.5.1

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Tdoc	Title	Source	Agenda Item
GP-000420	CR 08.18-A108 rev 1 Leaky bucket synchronization in BSSGP	Motorola	8.2.5.1
GP-000421	CR 04.60-A891 rev 1 Correction on I_LEVEL_TN (R99)	Motorola	8.2.5.3
GP-000422	CR 08.08-A214 rev 2 DTM: clarification of the use of the COMMOM ID message (R99)	Vodafone	8.2.5.1
GP-000423	CR 48.008-006 rev 2 DTM: clarification of the use of the COMMOM ID message (R00)	Vodafone	8.2.5.1
GP-000424	CR 08.08-A224 rev 2 Old to new BSS container (R99)	Ericsson	8.2.5.2
GP-000425	CR 48.008-013 rev 2 Old to new BSS container (R00)	Ericsson	8.2.5.2
GP-000426	CR 05.01-A031 Minimum Mobile Station Class and Channelisation Capabilities	Motorola	8.1.5.1
GP-000427	GSM 400 system; Implementation guidelines (R97)	Nokia	8.1.5.10
GP-000428	GSM 400 system; Implementation guidelines (R98)	Nokia	8.1.5.10
GP-000429	Proposed Work Item: GERAN/UTRAN interface evolution	Drafting group	10
GP-000430	Proposed Work Item: Evolution of Iucs interface	Drafting group	10
GP-000431	Proposed Work Item: Evolution of A interface	Drafting group	10
GP-000432	Proposed Work Item: Low chip rate TDD Interworking with GERAN	Drafting group	10
GP-000433	Proposed Work Item: GERAN improvement part 1	Drafting group	10
GP-000434	Proposed Work Item: Gb over Ip	Drafting group	10
GP-000435	Proposed Work Item: GERAN improvements part 2	Drafting group	10
GP-000436	Proposed Work Item: Gb enhancements	Drafting group	10
GP-000437	Proposed Work Item: GERAN radio interface evolution	Drafting group	10
GP-000438	Proposed Work Item: Overall concept for GERAN radio interface evolution	Drafting group	10
GP-000439	Proposed Work Item: Header adaptation	Drafting group	10
GP-000440	Proposed Work Item: Radio Access Bearer Design	Drafting group	10
GP-000441	Proposed Work Item: GERAN User/Control plane	Drafting group	10
GP-000442	Proposed Work Item: GERAN RR	Drafting group	10
GP-000443	Proposed Work Item: Iur-g Interface	Drafting group	10
GP-000444	Proposed Work Item: Voice over GERAN PS and CS – Concept	Drafting group	10
GP-000445	Proposed Work Item: Narrow band speech realization	Drafting group	10

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Tdoc	Title	Source	Agenda Item
GP-000446	Proposed Work Item: GERAN Security	Drafting group	10
GP-000447	Proposed Work Item: MS Conformance test for GERAN interface evolution	Drafting group	10
GP-000448	Proposed Work Item: BTS Conformance test for GERAN interface evolution	Drafting group	10
GP-000449	Proposed Work Item: GERAN 700 MHz spectrum support	Drafting group	10
GP-000450	Proposed Work Item: GERAN support for the 700 MHz band	Drafting group	10
GP-000451	Proposed Work Item: MS Conformance test for 700 MHz band	Drafting group	10
GP-000452	Proposed Work Item: BTS Conformance test for 700 MHz band	Drafting group	10
GP-000453	Proposed Work Item: Support of Wideband AMR in GERAN	Drafting group	10
GP-000454	Proposed Work Item: MS Conformance test for Wideband AMR	Drafting group	10
GP-000455	Proposed Work Item: BTS Conformance test for Wideband AMR	Drafting group	10
GP-000456	Proposed Work Item: LCS interoperability aspects to GERAN	Drafting group	10
GP-000457	Proposed Work Item: LCS in GERAN	Drafting group	10
GP-000458	Proposed Work Item: GERAN MS Conformance test for LCS	Drafting group	10
GP-000459	Proposed Work Item: GERAN BTS Conformance test for LCS	Drafting group	10
GP-000460	Draft Liaison Statement on RATSCCH	TSG GERAN WG1	8.1.5.11
GP-000461	GSM 09.9x Release Independent Frequency Bands; Implementation guidelines (R97), Version 1.0.0	Nokia	8.1.5.10
GP-000462	GSM 09.9x Release Independent Frequency Bands; Implementation guidelines (R98), Version 1.0.0	Nokia	8.1.5.10
GP-000463	Draft Liaison Statement on RATSCCH	TSG GERAN	8.1.5.11
GP-000464	Proposed Work Item: GERAN radio interface evolution	Drafting group	10
GP-000465	Draft Report of TSG GERAN WG1 meeting no 1, ver 0.0.1	MCC	9.1.1
GP-000466	CR 04.60-A890 rev 2 Miscellaneous corrections on packet access and message coding (R99)	Motorola	8.2.5.1
GP-000467	CR 04.60-A887 rev 2 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R99)	Ericsson	8.2.5.1
GP-000468	Draft Report of TSG GERAN WG2 meeting no 1	MCC	9.2.1
GP-000469	Proposed Change to Stage 2 Description generic Conversational and Streaming RAB Realisation	Drafting group	9.1.2
GP-000470	Proposed stage to stage 2 and RR control	Drafting group	9.1.2

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Tdoc	Title	Source	Agenda Item
GP-000471	TS 03.51 GERAN stage 2 description	Rapporteur	9.1.2
GP-000472	Draft Liaison Statement on RATSCCH	TSG GERAN	8.1.5.11
GP-000473	Detailed planning for GERAN	TSG-GERAN	10
GP-000474	CR 08.08-A224 rev 3 Old to new BSS container (R99) WITHDRAWN	Ericsson	8.2.5.2
GP-000475	CR 48.008-013 rev 3 Old to new BSS container (R00) WITHDRAWN	Ericsson	8.2.5.2
GP-000476	CR 08.08-A224 rev 4 Old to new BSS container (R99)	Ericsson	9.2.3
GP-000477	CR 48.008-013 rev 4 Old to new BSS container (R00)	Ericsson	9.2.3
GP-000478	Proposed Work Item: GERAN interface evolution 2	Drafting group	10
GP-000479	CR 04.60-A895 rev 1 Correction to EGPRS OPA contention resolution	Nokia	9.2.3
GP-000480	Detailed planning for GERAN	TSG-GERAN	10
GP-000481	Proposed Work Item: GERAN/UTRAN interface evolution 1	Drafting group	10

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Annex C: List of attendees

Title	Last Name	First Name	Company	Mailing Address	Country	Telephone	Fax	Email	Arrival Date	Departure Date
Mr.	Achard	Jacques	Alcatel	10 rue Latecoere, 78141 Velizy	France	33 1 30 770670, GSM 33 670032098	33 1 30 779430	jacques.achard@alcatel.com	28-08-00	01-09-00
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Mr.	Andersen	Niels Peter Skov	Motorola A/S	Midtager 20, DK 2605 Brondby	Denmark	45 43 48 81 10	45 43 48 82 76	npa001@email.mot.com	27-08-00	02-09-00
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Mr.	Backlund	Ingemar	Ericsson Radio Systems AB	SE-164 8C Stockholm	Sweden	46 8 40 47709	46 8 75169 28	ingemar.backlund@era.ericsson.se	26-08-00	01-09-00
Mr.	Barany	Peter	Nortel Networks	2201Lakeside Blvd. Richardson TX 75082	United States					
Dr.	Bauer	Rolf	Alcatel SEL AG		Germany	49 711 821 42441	49 711 82140017	Rbauer@alcatel.de	27-08-00	31-08-00
Ms.	Bellfort	Veronique	Alcatel		France	33 1 30 778611	33 1 30 778152	veronique.belfort@alcatel.fr	27-08-00	02-09-00

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Mr.	Bienn	Marvin	Nortel Networks	7013 Rocky Top Circle, Dallas, Texas 75252	USA	972 685 0883	972 684 3775	bienn@nortelnetworks.com	27-08-00	02-09-00
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Mr.	Bontu	Chandra	Nortel	100, Constellation Nepean	Canada					
Mr.	Bradley	Wayne	Prairie Comm.	1600 Golf Road, Suite 6008	USA	847 871 1805	847 871 1900	Wayne.Bradley@prairiecomm.com	28-08-00	01-09-00
Mr.	Bragg	Michael	Motorola GSD	16 Euroway, Blagrove, Swindon, SN5 8 YQ	UK	44 0 1793 5652 99	44 0 1793 566946	mibragg1@email.mot.com	30-08-00	01-09-00
Mr.	Braun	Achim	Alcatel SEL	Lorenzstr . 10, 70435 Skatjart	Germany	49 711 821 41817	49 711 821 41177	achim.braun@alcatel.de	28-08-00	01-09-00
Mr.	Bruch	Diemo	Alcatel SEL AG	Lorenstr.10 70435 Stuttgort	Germany	49 711 821 47594	49 711 821 41177	Dbruch@alcatel.de	26-08-00	02-09-00
Mr.	Busin	Ake	Ericsson Radio Systems	SE-164 80 Stockholm	Sweden	46 8 757 2231	46 8 404 55 90	ake.busin@era.ericsson.se	28-08-00	01-09-00

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Mr.	Casati	Alessio	Lucent Technologies	Windmill Hill Business Park	UK	44 1783 883861	44 1783883 815	acasati@lucent.com	28-08-00	01-09-00
Mr.	Cecconi	Geovanni	TIM	Via Vitorchiano 4, 00189	Italy	39 063 900 9006	39 063 900 9041	gcecconi@mail.tim.it	29-08-00	01-09-00
Mr.	Cheeseman	David	InterDigital Communications Corporation	3 Church Crescent, Sproughton, Ipswich IP8 3BJ	UK	44 1473 742 131		David.Cheeseman@btinternet.com	28-08-00	01-09-00
Mr.	Chotai	Sunil	BT	MLB1 PP11, Ipswich, IP5 7RE	UK	44 1473 605603	44 1473 623794	SUNIL.CHOTAI@BT.COM	28-08-00	01-09-00
Mr.	Choukroun	David	Nortel Networks	19 av. du centre Montigny le Bx. Yvelines Cedex 9 le Bretonnoux	France	33 1 39 44 36 39	33 1 39 44 5012	dchoukro@nortelnetworks.com	27-08-00	03-09-00
Mr.	Ciriaco	Angelo	Ericsson	601 N. Glenville Suite 155 M/S M02 Richardson, TX 75080	USA	1 972 583 6093	1 972 644 3036	QUSCIAN@AM1.ERICSSON.SE	27-08-00	01-09-00
Mr.	Colban	Erik	Ericsson	Olav Brunborgsvei 6, N-1375	Norway	47 66 84 1844	47 66 98 1095	Erik.A.Colban@ericsson.no	28-08-00	01-09-00
Dr.	Conner	Keith	Lucent Technologies	67 Whippany Road, Whippany, NJ 07981	USA	973 386 4358	973 386 2651	faulk@lucent.com	29-08-00	01-09-00
Mr.	Dakshinamoorthy	Ravi	Motorola	1501 W. Shure Dr.MSIL27-3223, Arlington	USA	847 632 2769	847 435 2523	Ravi.dakshinamoorthy@mot	27-08-00	01-09-00

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				Heights, IL 60004				orola.com		
Mrs.	De Jaeger	Bogena	Alcatel	10 rue Latecoere, 78141 Velizy	France	33 1 30 77 56 25	33 1 30 77 55 13	Bogena.de-jaeger@alcatelfr		
Mr.	Deshmukh	Sanjay	Motorola Inc.	1501 W. Shure Dr.MSIL27-3223, Arlington Heights, IL 60004	USA	847 632 6925	847 435 2253	Sanjay.Deshmukh@motorola.com	28-08-00	01-09-00
Mr.	Devaud	Olivier	France Telecom	38-40 rue du Gul Leclerc	France	33 1 45 29 64 10	33 1 45 29 64 40	olivier.devaud@francetelecom.fr	29-08-00	01-09-00
Dr.	Dhanda	Mungal Singh	Matsushita Comm Ind UK Ltd.	Daytona Drive, Colthorp, Thatcham, Berks, RG19 4ZD	UK	44 0 1635 871466	44 0 1635 87059	Mungal.dhanda@mci.co.uk	27-08-00	01-09-00
Mr.	Diachina	John	Ericsson Inc.	7001 Development Drive		919 472 7467	919 472 7467	John.Diachina@ericsson.com	27-08-00	01-09-00
Mr.	Dronne	Francois	France Telecom		France	33 1 45 29 6274	33 1 45 29 4399	francois.dronne@francetelecom.fr	28-08-00	01-09-00
Mr.	Drossos	Antonios	Nokia Networks	PO Box 300, FIN-00045 Nokia Group	Finland	358 9 5113 8413	358 9 5113 8452	antonios.drossos@nokia.com	27-08-00	01-09-00
Mr.	Durrant	Randy	Xircom	1365 Garden of the Gods Rd., Colorado Springs, CO	USA	719 884 2415	719 548 1393	Randy.Durrant@us.xircom.com	27-08-00	01-09-00

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				80907						
Mr.	Edge	Stephen	Siemens	900 Broken Sound Parkway, Boca Raton, FL 33487	USA	1 561 923 6574	1 561 923 8599	stephen.edge@icn.siemens.com	28-08-00	01-09-00
Mr.	Edlund	Peter	Ericsson Radio Systems AB	S 164 80 Stockholm	Sweden	46 8 757 2914	46 8 751 6928	peter.edlund@era.ericsson.se	26-08-00	02-09-00
Mr.	Ejzak	Richard	Lucent Technologies	263 Shuman Blvd. 1F-544, Naperville, IL 60566-7050	USA	1 630 979 7036	1 630 713 6959	ejzak@lucent.com	28-08-00	01-09-00
Mr.	Ekemark	Sven	Ericsson Radio Systems AB	SE-16480 Stockholm	Sweden	46 8 757 0424	46 709 813320	sven.h.ekemark@era.ericsson.se	28-08-00	01-09-00
Dr.	El-Saigh	Amer	Vodafone Group	The Courtyard, 2-4 London Road, Newbury, Berkshire RG14 1 JX	UK	44 1635 673842	44 1635 673969	amer.el-saigh@vf.vodafone.co.uk	28-08-00	01-09-00
Dr.	Engel	Thomas	Siemens	Siemens AG, ICM CA MS SE 3 D-13623 Berlin	Germany	49 30 386 44251	49 30 386 44255	Thomas-1.Engel@icn.siemens.de	28-08-00	01-09-00
Mrs.	Esseling	Ute	T-Mobil	PO Box 30 04 63, D-53145 Bonn		49 228 936 1214	49 228 936 1245	ute.esseling@t-mobil.de	27-08-00	02-09-00
Mr.	Figurelle	Terry	AT & T Wireless Services	PO Box 97061 , Redmond, WA 98073	USA	425 580 8392	425 580 6765	terry.figurelle@attws.com	29-08-00	31-08-00

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Mr.	Finke	Gerald	E-Plus	E-Plus-Platz D-40468 Dusseldorf	Germany	49 211 448 2724	49 211 448 4933	gerald.finke@eplus.de	28-08-00	01-09-00
Mr.	Fouilland	Pascal	Motorola S.A.	Av. General Eisenhower, Toulouse 31023	France	33 5 61 19 95 16	33 5 61 19 9958	r48992@email.mot.com	28-08-00	01-09-00
Mr.	Frew	Steven	Pacific Bell Wireless	SBC Technology Resources 9505 Arroretum Blvd., Austin, TX 78759	USA	512 372 5206	512 372 5891	sfrew@tri.sbc.com	27-08-00	01-09-00
Mr.	Friman	Leif	Nokia	Box 311, 00045 Nokia Group	Finland	358 9 511222 48	358 9 5112 2308	leif.friman@nokia.com	28-08-00	01-09-00
Mr.	Gabin	Frederic	Nortel Networks		France	331 39 44 4822	33 1 39 44 5012	fgabin@nortelnetworks.com	28-08-00	01-09-00
Ms.	Garcia-Mendive	Elena	Ericsson LM	Ericsson Allee 1, D-52134 Herzogenrath	Germany	49 2407 575 205	49 2507 575 477	Elena.Garcia-Mendive@eed.ericsson.se	26-08-00	01-09-00
Mr.	Gerz	Gerhard	Regulatory Authority For T&P	Canisius St. D-55122 Maine	Germany	49 61 31 182223	49 6131 185613	gerhard.gerz@regtp.de	27-08-00	02-09-00
Mr.	Ghribi	Brahim	Alcatel	Alcatel, Velizy	France	33 1 30 7707 81	33 1 30 77 82 76	Brahim.Ghribi@alcatel.fr	28-08-00	30-09-00
Mr.	Goldhofer	Franz	Siemens AG		Germany	49 89 722 46 493	49 89 722 25 167	franz.goldhofer@mch.siemens.de	27-08-00	02-09-00
Mr.	Gonorovsky	Ilya	Motorola			1 732 872 8217	1732 878 8001	I.gonorovsky@motorola.com	27-08-00	01-09-00
Mr.	Gorey	Kevin	Nortel	Foundation Park, Maiden Head,	UK	44 1628 434006	44 1628	kgorey@nortel	27-08-00	04-09-00

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			Networks	Rerfs 566 240			434034	networks.com		
Mr.	Gradl	Dietmar	Philips Semiconductors	Stromer Strabe 7-90443 Nuremberg	Germany	49 911 2001 1203	49 911 2001 1102	Dietmar.Gradl@philips.com	27-08-00	01-09-00
Mr.	Grant	Marc	SBC Communications	9505 Arboretum		1 512 372 5834	1 512 241 5834	marc.grant@sbc.com	28-08-00	01-09-00
Mr.	Greech	Michel	Lucent Technologies	Windmill Hill Business Park, Swindon	England	44 1793 88 3951	44 1793 883280		26-08-00	02-09-00
Mr.	Guaquiere	Thierry	France Telecom R&D	38-40 rue du General Le Clerc, 92794 Issy les Moulineaux, Cedex 9	France	33 1 45 29 8812	33 1 45 29 43 99	Thierry.guaquiere@francetelecom.fr	28-08-00	01-09-00
Mr.	Guarino	Bernard	AT & T					bernard.guarino@attws.com		
Mr.	Habermann	Steffen	T-Mobil	PO Box 300463 D-53184 Bonn	Germany	49 228 936 3324	49 228 936 883324	steffen.habermann@t-mobil.de	28-08-00	01-09-00
Mr.	Hagiwara	Junichiro	NTT DoCoMo	3-5 Hikarinooka, Yokosuka-shi, Kanagawa, 239-8536	Japan	81 468 40 3971	81 468 40 3295	hagijyun@wsp.yrp.ntt.docomo.co.jp	27-08-00	02-09-00
Mr.	Hamiti	Shkumbin	Nokia Research Center	PO Box 407, FIN 00045 Nokia Group	Finland	358 943761	358 9437 66850	shkumbin.hamiti@nokia.com	27-08-00	01-09-00
Mr.	Hayes	Stephen	Ericsson							

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Mr.	Hedberg	Thomas	Ericsson	SE-164 80 Stockholm	Sweden	46 8 764 1075	46 8 757 0354	tomas.hedberg@era.ericsson.se	27-08-00	01-09-00
Ms.	Hellman	Monica	ETSI			334 92 94 4266	334 93 652817	monica.hellman@etsi.fr	28-08-00	01-09-00
Mr.	Hellwig	Karl	Ericsson Eurolab Deutschland GmbH	Nordostpark 12, 90411 Nurnberg		49 911 5217 261	49 911 5217 961	karl.hellwig@eed.ericsson.se	28-08-00	30-08-00
Mr.	Hillock	Randy	Prairie Comm.	1600 Golf Road, Suite 6000	USA	847 871 1805	847 871 1900	randy.hillock@prairiecomm.com	28-08-00	01-09-00
Mr.	Hodges	Phil	Ericsson	EED, 52134	Germany	49 2407 575 6628	49 2407 575477	Phil.hodges@eed.ericsson.se		
	Homann	Christian	Alcatel SEL	lorenzstrausse 10, D 70 435 Stuttagart	Germany	49 711821 45632	49 711821 40017	c.homann@alcatel.de	26-08-00	01-09-00
Mr.	Howell	Andrew	Motorola		UK	44 1256 790 170	44 1256 790 190	Andrew.Howell@motorola.com	28-08-00	01-09-00
Mr.	Hu	Yun Chao								
Ms.	Humphrey	Jane D	Marconi Communications Limited	Discovery Court, 551-553 Wallisdown Road, Poole BH 125AG	UK	44 1202 853757	44 1202 853405	Jane.humphrey@marconi.com	27-08-00	01-09-00
	Huo	David	Lucent	67 Whippany Rd., Rm 3A-211, Whippany, NJ	USA	973 428 7787	973 386 3716	Dhuo@lucent.com	27-08-00	02-09-00

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				07981						
Mr.	Igarashi	Takeshi	NTT Software Corporation	5F Daini-yasuda Building 3-32-13 Tsuruyacho Kanagawa-ku Yokohama-shi Kanagawa 221-0835	Japan	81 45 317 7018	81 45 317 7028	rassy@po.ntt.co.jp	27-08-00	02-09-00
Mr.	Isaacs	Ken	Siemens/ Roke Manor	Roke Manor, Romsey, Hampshire, SO51 0ZN	England	44 0 1794 833531	44 0 1794 833616	Kenneth.isaacs@roke.co.uk	28-08-00	01-09-00
Mr.	Jansson	Fredrik	Ericsson Radio Systems	St 6480 Stockholm	Sweden	468 764 1221	468 757 2770	fredrik.jansson@era.ericsson.se	28-08-00	31-09-00
Mr.	Johansson	Muthias	Ericsson Radio Systems AB	Torshamegatan 23, 16480 Stockholm	Sweden	46 8 757 2369	46 8 757 5720	Mathias.P.Johansson@era.ericsson.se	28-08-00	01-09-00
Mr.	Jokinen	Harri	Nokia	Nokia Mobile Phones PO Box 86, FIN-24101 Salo	Finland	358 10 5051	358 10 505 4600	harri.jokinen@nokia.com	28-08-00	01-09-00
Mr.	Kain	Albert	Siemens AG	Autokaderstr. 29 1210 Vienna	Austria	43 51707 21319	43 51707 51924	Albert.Kain@siemens.at	26-08-00	01-09-00
Mr.	Kamalainen	Kimmo	Sonera Corporation	PO Box 040 00051, Sonera	Finland	358 20401	358 406 300 848	kimmo.kymalainen@sonera.com	28-08-00	01-09-00
Mr.	Kangas	Antti	Nokia Mobile Phones	Elektroniikkatie 10, PL 50, 90571 Oulu	Finland	358 40 5170103	358 10 50 57222	antti.o.kangas@nokia.com	28-08-00	01-09-00

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Mr.	Kar	Radivos	Mitsubishi Electric	25 Bd des Bourets, FR2741	France	33 1 55 6856 60	33 1 55 68 5741	rkar@compuserve.com	27-08-00	01-09-00
Mr.	Karwowski	Oliver	Mannesmann Mobilfunk	AM Seestern 1, 40457 Dusseldorf	Germany	49 172 33099 2085	49 172 33099 3804	oliver.karwowski@d2mannesmann.de	28-08-00	01-09-00
Mr.	Kastein	John	Motorola	1501 W. Shure Dr. MS:IL27/3223, Arlington Heights, IL 60004	USA	847 632 6911	847 435 2253	John.Kastein@motorola.com	28-08-00	01-09-00
Mr	Kendall	Stephen	Motorola	Midpoint, Alencon Link, Basingstoke	UK	44 1256 790 454	44 1256 790 190	Steve_Kendall@europe27.mot.com	28-08-00	30-09-00
Mr.	Keshki-Heikkila	Mika	Sonera	PO Box 040, FIN-00051 Sonera		358 40 547 8847	358 42 5478847	mika.keski-heikkila@sonera.com	26-08-00	02-09-00
Mr.	Keutmann	Hienz-Peter	Ericsson	Ericsson-Allee 1, 52134 Herzongenrath	Germany	49 2407 5752	49 2407 57 5477	HEINZ-PETER.KEUTMANN@EED.ERICSSON.SE	26-08-00	01-09-00
Mr.	Klehn	Norbert	Siemens AG	Siemensdamm 62, D-13623 Berlin	Germany	49 30 386 29090	49 30 386 44255	Norbert.klehn@icn.siemens.de	27-08-00	01-09-00
Dr.	Kopyto	Damian	Siemens AG ICN QE 21	Hofmannstr. 51, D-81379 Munich	Germany	49 89 722 49021	49 89 722 41049	damian.kopyto@icn.siemens.de	29-08-00	02-09-00
Mr.	Landais	Bruno	Alcatel	1 rue Latecoere, BP 57 78141 Velizy Cedex	France	33 1 30 77 32 68	33 1 30 77 94 30	bruno.landais@alcatel.fr	28-08-00	01-09-00

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Dr.	Lang	Andreas	Siemens AG	Lise-Meitner-Sk.5, D-89081 ULM	Germany	49 731 9533 528	49 731 9533 616	Andreas.Lang@ulm.siemens.de	27-08-00	03-09-00
Mrs.	Lanig	Eva-Maria	Siemens	Hofmannstr. 5S, Munich	Gemany	49 89 722 34453	49 89 722 21882	Eva-Maria.Lanig@icn.siemens.de	29-08-00	30-08-00
Mr.	Leppisaari	Arto	Nokia Mobile Phones	PO Box 68 33 720 Tampere	Finland	358 10 505 6811	358 10 505 6855	Arto.leppisaari@nokia.com	28-08-00	01-09-00
Mr.	Lilleheim	Vidar	Ericsson	Postuttuk, N-4898 Grimstad	Norway	47372 93 713	47 370 42 370	Vidar.lilleheim@ericsson.no	27-08-00	01-09-00
Dr.	Lin	Ie-Hong	Snap Track	4040 Moorpark Ave. Suite 250, San Jose, CA 95117	USA	408 556 0640	408 557 0404	ilin@qualcomm.com	27-08-00	01-09-00
Mrs.	Livingston	Margaret	Nokia	6000 Connection Dr.	USA	972 894 5740	972 894 5525	margaret.livingston@nokia.com	25-08-00	01-09-00
Dr.	Llorente	Carlos	Telefonica de Espana	C/Ramirez de Arellano, 19, 4 plt	Spain	34 609 410 896	34 630 007 953	llorente_c@tsm.es	27-08-00	02-09-00
Mr.	Lopez-Soria	Luis	Ericsson LM	Ombu 3 28045 Madrid	Spain	34 91 339 2656	34 91 339 2538	luis.lopez-soria@ece.ericsson.se	26-08-00	02-09-00
Mr.	Makinen	Teemu	Nokia	PO Box 313, FIN-00045 Nokia Group	Finland	358 40 50 77283	358 40 511 23207	Teemu.Makinen@nokia.com	28-08-00	01-09-00
Mr.	Malouche	Zied	Nortel Networks	1, Place des Freres Montgulfier, CT11, Saint-	France	33 1 39 44 54 28	33 1 35 44 50 12	malouche@nortelnetworks.com	28-08-00	01-09-00

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				quentin en Yveleres						
Mr.	McConville	Daniel	Vodafone Limited	Canal House, Hambridge Road, Newbury, Berkshire, UK RG145XF	UK	44 1635 682 664	44 1635 234 978	david.mcconville@vf.vodafone.uk	28-08-00	01-09-00
Mr .	Malouche	Zied	Nortel networks	19 av. du centre Montigny le Bx. Yvelines Cedex 9 le Bretonnoux	France				28/08/2000	01-09-00
Mr.	Menard	John	Lucent Technologies	Naperville, Illinois, 60566	USA	1 630 979 6376		Jmenarad@lucent.com	27-08-00	02-09-00
Mr.	Minet	Jean Francois	Nortel Networks	19 avenue du Centre 78928 Montigny le Bretonneux	France	33 1 39 44 44 94	33 1 39 44 50 02	Jfminci@nortelnetworks.com	27-08-00	01-09-00
Mr.	Mitamura	Kazuo	NTT Communicationware	1-6 Nakase Mihama-ku Chiba-shi, Chiba 261-0023	Japan	81 43 211 2708	81 43 211 5161	mitamura.kazuo@se.nttcom.co.jp	28-08-00	01-09-00
Mr.	Miura	Toshitaka	NTT DoCoMo	3-5 Hikarinooka, Yokosuka-shi, Kanagawa, 239-8536	Japan	81 468 40 3732	81 468 40 3732	miu@net.yrp.nttdocomo.co.jp	28-08-00	02-09-00
Mr.	Miyagawa	Sumio	Siemens KK	Takanawa-Park Tower, 20-14 Higashi-Gotanda-3 Shinagawa-ku, Tokyo 141 8641	Japan	81 3 5423 6745	81 3 5423 8728	miyagawa@twics.com	27-08-00	01-09-00

Mr.	Muhonen	Ahti	Nokia	PO Box 321, 00045 Nokia Group, Finland	Finland	35 8405318469	35 8951168080	ahti.muhonen@nokia.com	28-08-00	01-09-00
Mr.	Musikka	Niilo	Ericsson	16480 Stockholm	Sweden	46 87 5721 53		Niilo.Musikka@era.ericsson.se	29-08-00	01-09-00
Mr.	Nakatani	Tatsuya	Fujitsu Ltd.	1-1, Kamikodanaka 4-chome, Nakahara, Kawasaki	Japan	81 44 754 3855	81 44 754 3145	nakatani@mcws.ts.fujitsu.co.jp	27-08-00	02-09-00
	Nanda	Sanjiv	Lucent	101 Crawfords Corner Rd. Holmdel, NJ 07733	USA	732 949 1759	732 949 1504	nanda@lucent.com	27-08-00	02-01-00
Mr.	Naula	Mika	Sonera Corporation	PO Box 487, FIN 90101 Oulu	Finland	358 0 2040 71253	358 0 2040 71257	Mika.Naula@sonera.com	28-08-00	01-09-00
Mr.	Ng	Cheng Hock	NEC	1131 Hinode, Abiko City	Japan	81 471 85 7167	81 471 85 6863	ngcheng@mcs.abk.nec.ca.jp	28-08-00	31-08-00
Mr.	Noguera	Juan	L.M. Ericsson	3/48 Deakin Street Essendon, VIC 3040	Australia	61 3 9301 6117	61 3 9301 1877	Juan.noguera@ericsson.com.au	28-08-00	01-09-00
Mr.	Noldus	Rogier	Ericsson	PO Box 8, 5120 AA Rijen	Netherlands	31 161 24 9400	31 161 24 9904	rogier.noldus@etm.ericsson.se	28-08-00	01-09-00
Mr.	Norris	Simon	Panasonic	Daytona Drive, Colthrop, Thatcham, Berkshire, RG194ZD	UK	44 0 1635 588951	44 0 1635 876059	simon.norris@mci.co.uk	27-08-00	01-09-00

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Mr.	Ohana	Alain	BellSouth Cellular	PO Box 800218, Aventura, FL 33280	USA	1 305 933 0911	1 305 933 0911	alain.ohana@pcs.bls.com	27-08-00	02-09-00
Mr.	Olofsson	Hakan	NorthStream AB/ A T&T	Smidesvagen 10, 4th Floor		46 8 564 84 800	46 8 754 0002	Hakan.olofsson@northstream.se	28-08-00	02-09-00
Mr.	Olsson	Torbjorn	Ericsson Mobile Communications	Nya Vattentornet Lund	Sweden	46 46 23 2677	46 46 193328	torbjorn.olsson2@ecs.ericsson.se	28-08-00	01-09-00
Mr.	Oudelaar	Jan	Lucent Technologies	PO Box 1168, Hilversum	The Netherlands	31 35 687 1736		oudelaar@lucent.com	27-08-00	01-09-00
Ms.	Palsson	Annika	Ericsson Mobile Communications	Nya Vattentornet, SE-221 83 Lund	Sweden	46 46 19 3711	46 46 19 3216	Annika.Palsson@ecs.ericsson.se	28-08-00	01-09-00
Mr.	Palviainen	Keijo	Nokia							
Mr.	Parantainen	Janne	Nokia Research Center	PO Box 407, FIN-00045 Nokia Group	Finland	358943761	35 8 943766850	janne.parantainen@nokia.com	27-08-00	31-09-00
Mr.	Park	Ian	Vodafone Limited	Canal House, Hambridge Road, Newbury Berkshire, UK RG 145XF	UK	44 1635 673 527	44 1635 233 562	ian.park@vf.vodafone.co.uk	28-08-00	01-09-00
Mr.	Parker	Christopher	Motorola	16 Euro Way, Blagrove, Swindon, SN5 8YQ	UK	44 1793 5664554	44 1793 541228	Chris.Parker@Motorola.com	27-08-00	01-09-00

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Mr.	Patil	Basavaraj	Nokia	6000 Connection Dr., Irving TX 78039	USA	972 894 5000		Basavaraj.Patil@nokia.com	28-08-00	31-08-00
Dr.	Pecen	Mark	Motorola, Inc.	600 North US Highway 45, Libertyville, IL 60048	USA	847 523 1718	847 523 2545	WLMP17@email.mot.com	27-08-00	01-09-00
Mrs.	Pekonen	Johanna	Nokia	Valimotie 9, 00380 Helsinki		3589 5116 8826	35 89 5116 8080	johanna.pekonen@nokia.com	28-08-00	01-09-00
Mr.	Persson	Bengt Y.	Ericsson Radio Systems	S-16480 Stockholm	Sweden	46 8 757 0409	46 8 752 6618	begt.y.persson@era.ericsson.se	28-08-00	01-09-00
Mr.	Pietri	Pierre Jean	Alcatel	19 Rue Latocoere 78191 Velizy	France	33 13077 0573	33 1 30 779430	Pierre-Jean.Pietri@alcatel.fr	27-08-00	01-09-00
Mr.	Pittman	Jeff	Nokia Networks	6000 Connection Drive, Irving, TX 75039	USA	972 894 5582	972 894 6030	Jefferson.pittman@nokia.com	29-08-00	31-08-00
Miss	Pomponi	Laura	CSELT			39 011 228 7576	39-011 228 7056	laura.pomponi@cselt.it	27-08-00	02-09-00
Mr.	Poscher	Jens	Mannesmann Mobilefunk GmbH	Am Seestern 1		49 211 533 2856	49 211 533 1470	jens.poscher@d2mannesmann.de	28-08-00	01-09-00
Mr.	Prenatt	Dan	AirNet Communications Corp.	1432 Northampton Terrace, West Palm Beach FL 33414	USA	561 792 1139		dprenatt@aircom.com	28-08-00	31-09-00
Mr.	Prendergast	Douglas	Mitsubishi	PO Box 9283, Station 1,	Canada	613 248 3566	613 738 1772	dprender@pci	27-08-00	02-09-00

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				Ottawa, Ontario				canada.com		
Mr.	Probasco	Scott	Nokia	6000 Connection Dr., Irving TX 75039	USA	972 894 4429	972 894 5525	scott.probasco@nokia.com	28-08-00	01-09-00
Mr.	Qian	Faqiang	Siemens AG	TN MNS SA, Autokader Str. 29, A-1210 Vienna	Austria	43 51707 21460	43 51707 51924	Faqiang.qian@siemens.at	27-08-00	02-09-00
Mr.	Rahm	Martin	Nokia	PO Box 321, 0045 Nokia Group	Finland	35 89 51168677	35 89 511 68 080	Martin.Rahm@nokia.com	28-08-00	01-09-00
Mr.	Rasanen	Juha	Nokia	Needs to register						
Dr.	Reck	Sandra	Ericsson			47 85 85 530503		Sandra.Reck@era.ericsson.se	28-08-00	01-09-00
Mr.	Sacuta	Alan	Lucent	Site 19, Box 84 551 Calgary AB Canada T2M4N3		402 239 4089	402 2394306	asauta@telusplanet.net	27-08-00	02-09-00
Mr.	Samuelsson	Mats	Ericsson Radio Systems AB	SE 1648 Stockholm	Sweden	468 7570429	468 7641 953	mats.samuelsson@era.ericsson.se	28-08-00	02-09-00
Mr.	Savelli	Patrick	Alcatel	32 Avenue Kleber, 92707 Colombes Cedex	France	33 1 55 66 66 08	33 1 55 66 44 50	Patrick.savelli@alcatel.fr	28-08-00	01-09-00
Mr.	Sawada	Masahiro	NTT DoCoMo Inc.	NTT DoCoMo R&D Center, 3-5 Hikarinooka, Yokosuka-shi, 239-8536	Japan	81 468 40 3970	81 468 40 3723	masahiro@nw.yrp.nttdocomo.co.jp	27-08-00	02-09-00

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Mr.	Schmitt	Peter	Siemens AG		Germany	49 6621 169 152	49 6621 169 225	Peter.schmitt@icn.siemens.de	28-08-00	02-09-00
Mr.	Schneyer	Sean	Ericsson Inc.	740 E. Campbell Rd. MS M-03 Richardson, TX 75081	USA	1 972 583 8329	1 972 644 3036	Sean.Schneyer@ericsson.com	27-08-00	03-09-00
Mr.	Sebire	Guillame	Nokia			358 40 569 2657q	358 9 4376 6858	guillame.sebire@nokia.com	28-08-00	01-09-00
Mr.	Sebire	Benoist	Nokia	PO Box 407-00045 Nokia Group	Finland	358 40 56 92543	358 94 3766858	benoist.sebire@nokia.com	28-08-00	01-09-00
Mr.	Sennels	Soren	Nokia Mobile Phones	Frederikskaj, DK-1790 Copenhagen V	Denmark	45 20 75 36 98	45 36 44 14 72	soren.sennels@nokia.com	27-08-00	02-09-00
Mr.	Settimo	Franco	ETSI			33 4 92 94 4266	33 4 93 652817	franco.settimo@etsi.fr	28-08-00	01-09-00
Dr.	Shahrier	Sharif	Interdigital	781 Third Avenue, King of Prussia, PA 19406	USA	610 878 7814	610 878 7841	Sharif.Shahrier@interdigital.com	27-08-00	02-09-00
Mr.	Shen	Donglin	AT&T	PO Box 97061, Redmond, WA 98073	USA	1 425 580 7614	1 425 580 6880	Donglin.shen@attws.com	27-08-00	01-09-00
Mr.	Sjerling	Klas	Ericsson Radio Systems	Farogatan 6, 164 80 Kista	Sweden	46 8 585 33965	46 8 764 1953	Klas.sjerling@era.ericsson.se	28-08-00	31-08-00
Mr.	Smith	David G.	BT	MLB1 PP11, BT Adastral Park, Martlesham	UK	44 1473 605441	44 1473 623793	David.g.smith@bt.com	26-08-00	02-09-00

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				Heath, IPSWICH, IP5 3RE						
Dr.	Sorelius	Joakim	Ericsson	SE-164 80 Stockholm	Sweden	46 8 757 2451	46 8 414 4613	joakim.sorelius@era.ericsson.se		
Miss	Sorjima	Miyuki	NTC		unreadable	81 44 900 7311	81 44 900 7320	unreadable	26-08-00	02-09-00
Mr.	Stephen	Hayes	Ericsson							
Mr.	Stromme	Jon E.	Telelogic AB	Haakon VII gt 7A, NO-7049 Trondheim	Norway	47 73 10 50 27	47 73 10 50 01	Jon.Stromme@telelogic.com	28-08-00	01-09-00
Mr.	Sutinen	Jukka	Nokia	6000 Connection Drive, Irving, TX 75019	USA	1 972 894 5484	1 972 894 5949	jukka.sutinen@nokia.com	29-08-00	01-09-00
Mr.	Tamura	Toshiyuki	NEC	1131 Hinode, Abiko, Chiba 270-1198	Japan	81 471 85 6901	81 471 85 6960	Tamurato@elsf.ncos.ne.co.jp	27-08-00	02-09-00
Mr.	Tegth	Ulf	Telia AB	Telia Mobile, TM/RND, SE-131 86 Nacka Strand	Sweden	46 70 591 04 45	46 70 615 04 45	ulf.b.tegth@telia.se	27-08-00	01-09-00
Mr.	Thomas	David	Roke Manor Research-Siemens	Roke Manor, Romsey, Hants	UK	44 1794 833431	44 1794 833589	david.thomas@roke.co.uk	27-08-00	01-09-00
Mr.	Thomasen	Gert	ETSI	needs to register						
Mr.	Tiainen	Vesa	Nokia	PO Box 314 FIN-00045 Nokia	Finland	358 9 5116 9712	358 9 5112 9253	Vesa.tiainen@nokia.com	26-08-00	01-09-00

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				Group						
Mr.	Toner	Ben	Siemens/ Roke Manor Research	Old Salisbury Lane, Romsey, Hants	UK	44 1794 833683	44 1794 833586	ben.toner@roke.co.uk	27-08-00	01-09-00
Mr.	Toth	Stefan	Ericsson Mobile Data Design	Sankut Sigfridsgaten 89, Gothenburg	Sweden	46 31 344 60 46	46 31 344 6033	stefan.toth@erv.ericsson.se	28-08-00	01-09-00
Mr.	Traynard	Jean Michel	Siemens	Hoffannstr, 51, D 81379 Muenchen	Germany	49 89 722 61084	49 89 722 28134	Jean-michel.traynard@icn.siemens.de	28-08-00	01-09-00
Mr.	Usai	Paolo	ETSI			334 92 94 42 66	334 93 651817	paolo.usai@etsi.fr	28-08-00	01-09-00
Mrs.	Vainola	Kati	Nokia	PO Box 314, FIN-00380 Helsinki	Finland	358 9 511 23242	358 9 511 23207	kati.vainola@nokia.com	28-08-00	31-08-00
Mr.	van Bussel	Han	T-Mobil	PO Box 300463	Germany	49 228 936 1232	49 228 936 1245	han.van.bussel@t-mobil.de	27-08-00	01-09-00
Mr.	Visser	John		Needs to register						
Mr.	Volkmar	Hammer	France Telecom	41-45 Bld Romain Rolland	France	331 55222 533	331 55222 624	volkmar.hammer@yahoo.com	28-08-00	01-09-00
Mr.	Webb	Paul	Siemens	Roke Manor Research Ltd., Roke Manor, Old Salisbury Lane, Romsey, Hampshire, SO51 0ZN	England	44 1794 833493	44 1794 833690	paul.webb@roke.co.uk	27-08-00	01-09-00

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Mr.	Wiik	Rune Werner	LM Ericsson	Ericsson AS, Postboks 34, N-1375 Billingstad	Norway	47 66 84 16 85	47 66 98 10 95	Rune.Werner.Wiik@ericsson.no	25-08-00	01-09-00
Mr.	Wild	Peter	Mannesmann Mobilefunk GmbH	Am Seestern 1; 40547 Dusseldorf	Germany	49 211 533 3798	49 211 533 3804	Peter.Wild@D2mannesmann.de	26-08-00	02-09-00
Mr.	Williams	Mike	VoiceStream	1365 Garden of the Gods Rd. Colorado Springs, CO 80907	USA	719 2291991	719 598 2165	mwilliams@omnipoint.com	27-08-00	31-08-00
Mr.	Williams	David	Qualcomm Europe	2000 Rte. Lucioles-BP126 F-06903, Sophia Antipolis	France	334 92 388220	3349 2388230	dwilliams@qualcomm.com	27-08-00	01-09-00
Mr.	Williamson	John	BT Cellnet	260 Bath Road, Slough SL14DX	UK	44 175 3565 660	44 175 35 65021	john.williamson@btcellnet.net	28-08-00	01-09-00
Dr.	Womack	James	Motorola Inc.	5401 N. Beach Street, M/S S247, Fort Worth, TX 76137	USA	817 245 2853	817 245 2065	James.Womack@motorola.com	28-08-00	01-09-00
Dr.	Woodward	Ernest	Intel Corporation	5000 W. Chandler Blvd. CH6-448, Chandler, AZ, 85226-3699	USA	1 480 554 8171	1 480 554 6377	ernest.e.woodward@intel.com	27-08-00	01-09-00
Ms.	Wunsch	Janice	Lucent Technologies	263 Shuman Dr. Naperville, IL 60555	USA	1 630 979 6429	1 630 224 9500	wusch@lucent.com	29-08-00	30-08-00
Ms.	Xie	Hong	Lucent	Rm 1E552, 263 Shuman Blvd.,	USA	630 224 4077	630 713 6215	hxie2@lucent.	28-08-00	01-09-00

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			Technologies	Naperville, IL 60566				com		
Mr.	Yahagi	Masahiko	NEC Corporation	1131 Hinode, Abiko, Chiba, 270-1198	Japan	81 471 85 7163	81 471 85 6862	Yamasa@mvc.biglobe.ne.jp	27-08-00	02-09-00
Ms.	Yang	Lucy	Motorola	1421 W. Shure Drive		847 435 0744		lucy.yang@motorola.com	27-08-00	01-09-00
Mr.	Yokota	Daisuke	Lucent Technologies Japan Ltd.	1-4-30 Roppongi, Minatoten, Tokyo	Japan	81 3 5561 3609	81 3 5561 4011	yokota@lucent.com	27-08-00	02-09-00
Mr.	Young	Michael	Motorola	11411 Number Five Road, Richmond, BC, V7A 4Z3	Canada	604 241 6032	604 241 6042	Michael.Young@motorola.com	27-08-00	02-09-00

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Annex D: Output from GERAN#1 meeting

The output documents from the meeting GERAN#1 are summarized in Sections:

9.1.3

9.2.3

9.3.3

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List of Change Requests

3GPP TSG GERAN

Meeting no 1

Seattle, Washington, U.S.A

28 August – 1 September 2000

Tdoc	Title	Source	Status
GP-000006	CR 03.22-A049 Check selected cell deduced by SI10 information with SI3 ones (R00)	ETSI STF139	Revised
GP-000331	CR 03.22-A049 rev 1 Check selected cell deduced by SI10 information with SI3 ones (R00)	TSG GERAN WG1	Approved
GP-000221	CR 03.22-A050 GSM 700 spectrum update (R00)	Nokia	Approved
GP-000222	CR 03.30-A011 GSM 700 cell sizes and RF budgets (R00)	Nokia	Approved
GP-000090	CR 03.64-A073 DTM (R99)	Nokia	Revised
GP-000326	CR 03.64-A073 rev 1 DTM (R99)	Nokia	Approved
GP-000091	CR 03.64-A074 DTM+EGPRS (R99)	Nokia	Approved
GP-000154	CR 03.64-A075 DTM: alignments (R99)	Vodafone	Revised
GP-000327	CR 03.64-A075 rev 1 DTM: alignments (R99)	Vodafone	Approved
GP-000018	CR 04.08-A728 Extended measurement report (MAFA) (R96)	Siemens	Revised
GP-000360	CR 04.08-A728 rev 1 Extended measurement report (MAFA) (R96)	Siemens	Approved
GP-000019	CR 04.08-A730 Extended measurement report (MAFA) (R97)	Siemens	Revised
GP-000378	CR 04.08-A730 rev 1 Extended measurement report (MAFA) (R97)	Siemens	Approved
GP-000020	CR 04.08-A732 Extended measurement report (MAFA) (R98)	Siemens	Revised
GP-000379	CR 04.08-A732 rev 1 Extended measurement report (MAFA) (R98)	Siemens	Approved
GP-000025	CR 04.08-A736 Handling of Power-Control-Parameter alpha (R97)	Siemens	Approved
GP-000026	CR 04.08-A738 Handling of Power-Control-Parameter alpha (R98)	Siemens	Approved
GP-000027	CR 04.18-A125 Handling of Power-Control-Parameter alpha (R99)	Siemens	Approved

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Tdoc	Title	Source	Status
GP-000021	CR 04.18-A126 Extended measurement report (MAFA) (R99)	Siemens	Revised
GP-000380	CR 04.18-A126 rev 1 Extended measurement report (MAFA) (R99)	Siemens	Approved
GP-000121	CR 04.18-A127 DTM: Removal of polling from DTM assignment (R99)	Ericsson	Approved
GP-000123	CR 04.18-A128 DTM: Correction of timers T3148 and T3107 (R99)	Ericsson	Revised
GP-000342	CR 04.18-A128 rev 1 DTM: Correction of timers T3148 and T3107 (R99)	Ericsson	Approved
GP-000127	CR 04.18-A129 DTM: tunnelling of GPRS signalling on the main DCCH (R99)	Nokia / Vodafone	Approved
GP-000132	CR 04.18-A130 DTM: provision of GPRS information for correct DTM behaviour (R99)	Vodafone	Revised
GP-000314	CR 04.18-A130 rev 1 DTM: provision of GPRS information for correct DTM behaviour (R99)	Vodafone	Approved
GP-000137	CR 04.18-A131 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)	Vodafone	Revised
GP-000317	CR 04.18-A131 rev 1 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)	Vodafone	Approved
GP-000142	CR 04.18-A132 DTM: alignment of the handover procedure (R99)	Vodafone	Approved
GP-000144	CR 04.18-A133 DTM: clarification of Radio Link Failure and RR connection abortion while in DTM (R99)	Vodafone	Approved
GP-000146	CR 04.18-A134 DTM: removal of the Main DCCH Assignment message (R99)	Vodafone	Revised
GP-000337	CR 04.18-A134 rev 1 DTM: removal of the Main DCCH Assignment message (R99)	Vodafone	Approved
GP-000150	CR 04.18-A135 DTM: definition (R99)	Vodafone	Approved
GP-000155	CR 04.18-A136 Support of 11 bits request reference in IA and IAR messages (R99)	Alcatel	Revised
GP-000389	CR 04.18-A136 rev 1 Support of 11 bits request reference in IA and IAR messages (R99)	Alcatel	Approved
GP-000179	CR 04.18-A137 DTM: GPRS information for DTM operation - TBF re-establishment (R99)	Ericsson	Approved
GP-000185	CR 04.18-A138 Correction of Table 10.5.60/GSM 04.18 (R99)	Ericsson	Withdrawn
GP-000191	CR 04.18-A139 Interpretation addition of CELL_BAR_QUALIFY_2 value (R99)	Ericsson	Approved

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Tdoc	Title	Source	Status
GP-000095	CR 04.18-A140 DTM+EGPRS (R99)	Nokia	Approved
GP-000266	CR 04.18-A141 Correction on Measurement Info Message (R99)	Nortel Networks	Approved
GP-000204	CR 04.18-A142 SI2ter bit map correction (R99)	Vodafone	Revised
GP-000385	CR 04.18-A142 rev 1 SI2ter bit map correction (R99)	Vodafone	Approved
GP-000206	CR 04.18-A143 SI2quater updates to allow GPRS->UMTS Cell-Reselection (R99)	Vodafone	Approved
GP-000209	CR 04.18-A144 Detailed coding modifications for the pre-configurations (R99)	Vodafone	Revised
GP-000313	CR 04.18-A144 rev 1 Detailed coding modifications for the pre-configurations (R99)	Vodafone	Revised
GP-000411	CR 04.18-A144 rev 2 Detailed coding modifications for the pre-configurations (R99)	Vodafone	Approved
GP-000211	CR 04.18-A145 Allowing MT calls when downloading pre-configurations (R99)	Vodafone	Withdrawn
GP-000213	CR 04.18-A146 Handover to UMTS description procedure including "blind handover" to UMTS	Vodafone	Revised
GP-000356	CR 04.18-A146 rev 1 Handover to UMTS description procedure including "blind handover" to UMTS	Vodafone	Approved
GP-000270	CR 04.18-A147 Correction on UTRAN classmark change procedure (R99)	Nortel Networks	Revised
GP-000353	CR 04.18-A147 rev 1 Correction on UTRAN classmark change procedure (R99)	Nortel Networks	Approved
GP-000234	CR 04.18-A148 Handover to UTRAN Command message format (R99)	Ericsson	Revised
GP-000387	CR 04.18-A148 rev 1 Handover to UTRAN Command message format (R99)	Ericsson	Withdrawn
GP-000236	CR 04.18-A149 RAB pre-configuration (R99)	Ericsson	Revised
GP-000348	CR 04.18-A149 rev 1 RAB pre-configuration (R99)	Ericsson	Withdrawn
GP-000259	CR 04.18-A150 Editorial correction on RR Packet Uplink/Downlink Assigment (R99)	Nokia	Revised
GP-000306	CR 04.18-A150 rev 1 Editorial correction on RR Packet Uplink/Downlink Assigment (R99)	Nokia	Approved
GP-000288	CR 04.18-A151 UE Security in UTRAN CM CHANGE (R99)	Ericsson	Revised
GP-000350	CR 04.18-A151 rev 1 UE Security in UTRAN CM CHANGE (R99)	Ericsson	Withdrawn

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Tdoc	Title	Source	Status
GP-000358	CR 04.18-A152 Noise suppression control for AMR	BellSouth, DT, BT, FT	Approved
GP-000076	CR 04.35-A006 related to GPS Assistance Data Broadcast Message ciphering (R98)	Nokia	Approved
GP-000077	CR 04.35-A007 related to GPS Assistance Data Broadcast Message ciphering (R99)	Nokia	Approved
GP-000056	CR 04.60-A845 rev 3 DTM: Exclusive allocation and other DTM alignments	Ericsson	Revised
GP-000341	CR 04.60-A845 rev 4 DTM: Exclusive allocation and other DTM alignments	Ericsson	Approved
GP-000023	CR 04.60-A872 Correction of RLC/MAC message (R97) (Wrong incorporation of CR A731)	Siemens	Approved
GP-000024	CR 04.60-A873 Correction of RLC/MAC message (R98) (Wrong incorporation of CR A732)	Siemens	Approved
GP-000046	CR 04.60-A874 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R97)	Nortel Networks	Approved
GP-000047	CR 04.60-A875 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R98)	Nortel Networks	Approved
GP-000048	CR 04.60-A876 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R99)	Nortel Networks	Approved
GP-000131	CR 04.60-A877 DTM: cell support indication (R99)	Vodafone	Approved
GP-000157	CR 04.60-A878 Editorial correction on cell reselection (R99)	Alcatel	Approved
GP-000158	CR 04.60-A879 CV within radio block made of 2 RLC data blocks (R99)	Alcatel	Approved
GP-000391	CR 04.60-A879 rev 1 CV within radio block made of 2 RLC data blocks (R99)	Alcatel	Withdrawn
GP-000181	CR 04.60-A880 DTM: GPRS information for DTM operation - TBF re-establishment (R99)	Ericsson	Approved
GP-000320	CR 04.60-A880 rev 1 DTM: GPRS information for DTM operation - TBF re-establishment (R99)	Ericsson	Withdrawn
GP-000182	CR 04.60-A881 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R97)	Ericsson	Revised
GP-000303	CR 04.60-A881 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R97)	Ericsson	Approved
GP-000183	CR 04.60-A882 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R98)	Ericsson	Revised
GP-000304	CR 04.60-A882 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R98)	Ericsson	Approved

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Tdoc	Title	Source	Status
GP-000184	CR 04.60-A883 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R99)	Ericsson	Revised
GP-000305	CR 04.60-A883 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R99)	Ericsson	Approved
GP-000187	CR 04.60-A884 Correction of Packet PDCH Release procedure (TIMESLOT_ALLOCATION) (R99)	Ericsson	Approved
GP-000188	CR 04.60-A885 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R97)	Ericsson	Revised
GP-000407	CR 04.60-A885 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R97)	Ericsson	Approved
GP-000189	CR 04.60-A886 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R98)	Ericsson	Revised
GP-000408	CR 04.60-A886 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R98)	Ericsson	Approved
GP-000190	CR 04.60-A887 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R99)	Ericsson	Revised
GP-000409	CR 04.60-A887 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R99)	Ericsson	Revised
GP-000467	CR 04.60-A887 rev 2 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R99)	Ericsson	Approved
GP-000193	CR 04.60-A888 Addition of CELL_BAR_QUALIFY_2 in neighbour cell descriptions	Ericsson	Revised
GP-000392	CR 04.60-A888 rev 1 Addition of CELL_BAR_QUALIFY_2 in neighbour cell descriptions	Ericsson	Approved
GP-000197	CR 04.60-A889 Correction of COMPACT neighbour cells description in PSI3bis (R99)	Motorola	Approved
GP-000215	CR 04.60-A890 Miscellaneous corrections on packet access and message coding (R99)	Motorola	Revised
GP-000308	CR 04.60-A890 rev 1 Miscellaneous corrections on packet access and message coding (R99)	Motorola	Revised
GP-000466	CR 04.60-A890 rev 2 Miscellaneous corrections on packet access and message coding (R99)	Motorola	Approved
GP-000198	CR 04.60-A891 Correction on I_LEVEL_TN(R99)	Motorola	Revised
GP-000421	CR 04.60-A891 rev 1 Correction on I_LEVEL_TN (R99)	Motorola	Approved
GP-000199	CR 04.60-A892 Maximum bit rate indication for radio interface (R99)	Motorola, Nokia, Mitsubishi, BT-Cellnet	Rejected
GP-000203	CR 04.60-A893 CSN1 backward compatibility corrections (R98)	Vodafone	Approved

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Tdoc	Title	Source	Status
GP-000208	CR 04.60-A894 GPRS->UMTS Cell-Reselection (R99)	Vodafone	Revised
GP-000347	CR 04.60-A894 rev 1 GPRS->UMTS Cell-Reselection (R99)	Vodafone	Approved
GP-000258	CR 04.60-A895 Correction to EGPRS OPA contention resolution	Nokia	Revised
GP-000479	CR 04.60-A895 rev 1 Correction to EGPRS OPA contention resolution	Nokia	Approved
GP-000261	CR 04.60-A896 Alignment of abnormal cases (R99)	Nokia	Revised
GP-000311	CR 04.60-A896 rev 1 Alignment of abnormal cases (R99)	Nokia	Approved
GP-000301	CR 04.60-A897 Delaying the final Packet Uplink Ack/Nack (R99)	Nokia	Withdrawn
GP-000302	CR 04.60-A898 Polling GPRS MS for uplink data after downlink TBF release (R99)	Nokia	Withdrawn
GP-000310	CR 04.60-A899 Correction of Packet Flow Context Procedures (R99)	Motorola	Revised
GP-000419	CR 04.60-A899 rev 1 Correction of Packet Flow Context Procedures (R99)	Motorola	Approved
GP-000410	CR 04.60-A900 Clarification of assembling convention for RLC/MAC control blocks	Ericsson	Postponed
GP-000078	CR 04.71-A005 related to modifications of the RIT measurements (R98)	Nokia	Revised
GP-000399	CR 04.71-A005 rev 1 related to modifications of the RIT measurements (R98)	Nokia	Postponed
GP-000079	CR 04.71-A006 related to modifications of the RIT measurements (R99)	Nokia	Revised
GP-000400	CR 04.71-A006 rev 1 related to modifications of the RIT measurements (R99)	Nokia	Postponed
GP-000092	CR 05.01-A028 DTM (R99)	Nokia	Approved
GP-000093	CR 05.01-A029 DTM+EGPRS (R99)	Nokia	Approved
GP-000223	CR 05.01-A030 Introduction of GSM 700 in 05.01 (R00)	Nokia	Approved
GP-000426	CR 05.01-A031 Minimum Mobile Station Class and Channelisation Capabilities	Motorola	Approved
GP-000007	CR 05.02-A161 NCH clarification (R00)	ETSI STF139	Approved
GP-000094	CR 05.02-A162 DTM (R99)	Nokia	Approved
GP-000106	CR 05.02-A163 Corrections to COMPACT (R99)	Ericsson	Approved
GP-000107	CR 05.02-A164 Removal of GPRS related text (R96)	Ericsson	Approved

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Tdoc	Title	Source	Status
GP-000195	CR 05.02-A165 Editorial corrections related to COMPACT (R99)	Motorola	Approved
GP-000196	CR 05.02-A166 Maximum bit rate indication for radio interface (R99)	Motorola, Nokia, Mitsubishi, BT-Cellnet	Rejected
GP-000108	CR 05.03-A042 Removal of GPRS related text (R96)	Ericsson	Approved
GP-000088	CR 05.05-A173 Clarification of BTS output power capability with 8PSK (R99)	Ericsson & Nokia	Revised
GP-000363	CR 05.05-A173 rev 1 Clarification of BTS output power capability with 8PSK (R99)	Ericsson & Nokia	Approved
GP-000013	CR 05.05-A162 Pico BTS Reference interference level clarification (R99)	Siemens	Approved
GP-000030	CR 05.05-A163 Alignment of spurious emissions GSM-3G(UTRA): BTS	Telia, T-Mobil	Approved
GP-000031	CR 05.05-A164 Alignment of spurious emissions GSM-3G(UTRA): MS	Telia, T-Mobil	Approved
GP-000087	CR 05.05-A165 Introduction of GSM 700 in 05.05 GSM on 700 MHz Frequency Band (R00)	Ericsson	Revised
GP-000370	CR 05.05-A165 rev 1 Introduction of GSM 700 in 05.05 GSM on 700 MHz Frequency Band (R00)	Ericsson	Approved
GP-000098	CR 05.05-A166 Definition of "small MS" (R97)	Ericsson	Revised
GP-000371	CR 05.05-A166 rev 1 Definition of "small MS" (R97)	Ericsson	Approved
GP-000099	CR 05.05-A167 Definition of "small MS" (R98)	Ericsson	Revised
GP-000372	CR 05.05-A167 rev 1 Definition of "small MS" (R98)	Ericsson	Approved
GP-000100	CR 05.05-A168 Definition of "small MS" (R99)	Ericsson	Revised
GP-000373	CR 05.05-A168 rev 1 Definition of "small MS" (R99)	Ericsson	Approved
GP-000109	CR 05.05-A169 Removal of GPRS related text (R96)	Ericsson	Approved
GP-000321	CR 05.05-A170 Correction on CS-4 performance requirements (R97)	Alcatel	Approved
GP-000322	CR 05.05-A171 Correction on CS-4 performance requirements (R98)	Alcatel	Approved
GP-000323	CR 05.05-A172 Correction on CS-4 performance requirements (R99)	Alcatel	Approved
GP-000014	CR 05.08-A284 Extended measurement report (MAFA) (R96)	Siemens	Revised
GP-000332	CR 05.08-A284 rev 1 Extended measurement report (MAFA) (R96)	Siemens	Approved

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Tdoc	Title	Source	Status
GP-000015	CR 05.08-A285 Extended measurement report (MAFA) (R97)	Siemens	Revised
GP-000333	CR 05.08-A285 rev 1 Extended measurement report (MAFA) (R97)	Siemens	Approved
GP-000016	CR 05.08-A286 Extended measurement report (MAFA) (R98)	Siemens	Revised
GP-000334	CR 05.08-A286 rev 1 Extended measurement report (MAFA) (R98)	Siemens	Approved
GP-000017	CR 05.08-A287 Extended measurement report (MAFA) (R99)	Siemens	Revised
GP-000335	CR 05.08-A287 rev 1 Extended measurement report (MAFA) (R99)	Siemens	Approved
GP-000101	CR 05.08-A288 Clarifications on EGPRS Quality parameters (R99)	Ericsson	Revised
GP-000361	CR 05.08-A288 rev 1 Clarifications on EGPRS Quality parameters (R99)	Ericsson	Approved
GP-000102	CR 05.08-A289 Editorial corrections (R99)	Ericsson	Revised
GP-000336	CR 05.08-A289 rev 1 Editorial corrections (R99)	Ericsson	Approved
GP-000103	CR 05.08-A290 Clarifications of interference measurements for COMPACT (R99)	Ericsson	Revised
GP-000362	CR 05.08-A290 rev 1 Clarifications of interference measurements for COMPACT (R99)	Ericsson	Approved
GP-000104	CR 05.08-A291 Corrections to Inter System Handover and Cell re-selection (R99)	Ericsson	Revised
GP-000330	CR 05.08-A291 rev 1 Corrections to Inter System Handover and Cell re-selection (R99)	Ericsson	Approved
GP-000110	CR 05.08-A292 Removal of GPRS related text (R96)	Ericsson	Approved
GP-000224	CR 05.08-A293 GSM 700 bands introduced in 05.08 (R00)	Nokia	Approved
GP-000273	CR 05.08-A294 BTS RF power control (R97)	Alcatel	Rejected
GP-000274	CR 05.08-A295 BTS RF power control (R98)	Alcatel	Rejected
GP-000275	CR 05.08-A296 BTS RF power control (R99)	Alcatel	Revised
GP-000325	CR 05.08-A296 rev 1 BTS RF power control (R99)	Alcatel	Approved
GP-000328	CR 05.08-A297 Correction to measurement reporting for DTM (R99)	Motorola	Approved
GP-000329	CR 05.08-A298 Corrections to BSIC decoding (R99)	Motorola	Revised
GP-000364	CR 05.08-A298 rev 1 Corrections to BSIC decoding (R99)	Motorola	Approved

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Tdoc	Title	Source	Status
GP-000291	CR 05.09-A009 ACS changes (R98)	Nortel Networks	Rejected
GP-000292	CR 05.09-A010 ACS changes (R99)	Nortel Networks	Rejected
GP-000293	CR 05.09-A011 RATSCCH Mapping (R98)	Nortel Networks	Rejected
GP-000294	CR 05.09-A012 RATSCCH Mapping (R99)	Nortel Networks	Rejected
GP-000105	CR 05.10-A059 Correction of assignment reaction time (R99)	Ericsson	Approved
GP-000111	CR 05.10-A060 Removal of GPRS related text (R96)	Ericsson	Approved
GP-000220	CR 05.10-A061 Addition of the switching requirement for the GSM to UTRAN (R99)	Nokia	Approved
GP-000010	CR 08.08-A210 Subject: Geographic Shape Restriction in LCS (R98)	Siemens ICM	Revised
GP-000395	CR 08.08-A210 rev 1 Subject: Geographic Shape Restriction in LCS (R98)	Siemens	Approved
GP-000011	CR 08.08-A211 Subject: Geographic Shape Restriction in LCS (R99)	Siemens ICM	Approved
GP-000140	CR 08.08-A212 DTM: correction to DTM information in Old BSS to new BSS Information IE (R99)	Vodafone	Approved
GP-000148	CR 08.08-A213 DTM: deletion of reference to PDSS2 (R99)	Vodafone	Approved
GP-000152	CR 08.08-A214 DTM: clarification of the use of the COMMOM ID message (R99)	Vodafone	Revised
GP-000339	CR 08.08-A214 rev 1 DTM: clarification of the use of the COMMOM ID message (R99)	Vodafone	Revised
GP-000422	CR 08.08-A214 rev 2 DTM: clarification of the use of the COMMOM ID message (R99)	Vodafone	Approved
GP-000173	CR 08.08-A215 32 kbit/s UDI/RDI multimedia in GSM (R99)	Nokia	Revised
GP-000382	CR 08.08-A215 rev 1 32 kbit/s UDI/RDI multimedia in GSM (R99)	Nokia	Approved
GP-000175	CR 08.08-A216 Correction of Signalling Field Element Coding (R99)	Nokia	Approved
GP-000177	CR 08.08-A217 Source Identification (R99)	Nokia	Revised
GP-000345	CR 08.08-A217 rev 1 Source Identification (R99)	Nokia	Approved
GP-000268	CR 08.08-A218 Various corrections about Intersystem HO(R99)	Nortel Networks	Rejected
GP-000229	CR 08.08-A219 Correction on LCS message coding (R98)	Ericsson	Rejected
GP-000230	CR 08.08-A220 Correction on LCS message coding (R99)	Ericsson	Rejected
GP-000232	CR 08.08-A223 CIC allocation correction (R99)	Ericsson	Withdrawn

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Tdoc	Title	Source	Status
GP-000286	CR 08.08-A224 Old to new BSS container (R99)	Ericsson	Revised
GP-000415	CR 08.08-A224 rev 1 Old to new BSS container (R99)	Ericsson	Revised
GP-000424	CR 08.08-A224 rev 2 Old to new BSS container (R99)	Ericsson	Revised
GP-000474	CR 08.08-A224 rev 3 Old to new BSS container (R99)	Ericsson	Revised
GP-000476	CR 08.08-A224 rev 4 Old to new BSS container (R99)	Ericsson	Approved
GP-000129	CR 08.18-A104 DTM: tunnelling of GPRS signalling on the main DCCH (R99)	Nokia / Vodafone	Approved
GP-000135	CR 08.18-A105 DTM: download of the IMSI from the SGSN to the BSC	Vodafone	Approved
GP-000139	CR 08.18-A106 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities	Vodafone	Approved
GP-000309	CR 08.18-A107 Gb Interface: BSS Packet Flow Context Procedures (R99)	Motorola	Approved
GP-000398	CR 08.18-A108 Leaky bucket synchronization in BSSGP	Motorola	Revised
GP-000420	CR 08.18-A108 rev 1 Leaky bucket synchronization in BSSGP	Motorola	Postponed
GP-000263	CR 08.58-A054 Correction to Channel Mode IE (R99)	Nokia	Approved
GP-000008	CR 09.31-A017 Subject: Geographic Shape Restriction in LCS (R98)	Siemens ICM	Revised
GP-000393	CR 09.31-A017 rev 1 Subject: Geographic Shape Restriction in LCS (R98)	Siemens	Approved
GP-000009	CR 09.31-A018 Subject: Geographic Shape Restriction in LCS (R99)	Siemens ICM	Revised
GP-000394	CR 09.31-A018 rev 1 Subject: Geographic Shape Restriction in LCS (R99)	Siemens	Approved
GP-000029	CR 11.21-A131 Changes in clause 7 due to EDGE and GSM 05.01 (R99)	Siemens	Revised
GP-000366	CR 11.21-A131 rev 1 Changes in clause 7 due to EDGE and GSM 05.01	Siemens	Approved
GP-000053	CR 11.21-A132 Correction of test case for Signal quality, EGPRS	Ericsson	Revised
GP-000367	CR 11.21-A132 rev 1 Correction of test case for Signal quality, EGPRS	Ericsson	Approved
GP-000054	CR 11.21-A133 Correction of spurious requirements in UMTS bands	Ericsson	Revised
GP-000368	CR 11.21-A133 rev 1 Correction of spurious requirements in UMTS bands.	Ericsson	Approved

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Tdoc	Title	Source	Status
GP-000276	CR 11.21-A134 Correction of Blocking and AM suppression test case in GSM11.21	Nokia	Revised
GP-000365	CR 11.21-A134 rev 1 Correction of Blocking and AM suppression test case in GSM11.21	Nokia	Approved
GP-000134	CR 23.060-xxx DTM: download of the IMSI from the SGSN to the BSC (R99)	Vodafone	Not GERAN
GP-000316	CR 23.060-xxx DTM: download of the IMSI from the SGSN to the BSC (R99)	Vodafone	Not GERAN
GP-000136	CR 23.060-xxx DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)	Vodafone	Not GERAN
GP-000319	CR 23.060-xxx DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)	Vodafone	Not GERAN
GP-000130	CR 23.060-xxx DTM: simultaneous LAU and RAU procedures on an SDCCH (R99)	Vodafone	Not GERAN
GP-000200	CR 24.008-xxx "Maximum bit rate indication for radio interface (for information) (R99)	Motorola, Nokia, Mitsubishi, BT-Cellnet	Not GERAN
GP-000097	CR 24.008-xxx DTM+EGPRS (R99)	Nokia	Not GERAN
GP-000225	CR 24.008-xxx GSM 700 addition into MS classmark & radio access capability IE (R00)	Nokia	Not GERAN
GP-000417	CR 24.008-xxx GSM 700 addition into MS classmark & radio access capability IE (R00)	Nokia	Not GERAN
GP-000032	CR 44.018-001 Wrong NLN reference (R00)	ETSI STF139	Approved
GP-000022	CR 44.018-002 Extended measurement report (MAFA) (R00)	Siemens	Revised
GP-000381	CR 44.018-002 rev 1 Extended measurement report (MAFA) (R00)	Siemens	Approved
GP-000028	CR 44.018-003 Handling of Power-Control-Parameter alpha (R00)	Siemens	Approved
GP-000122	CR 44.018-004 DTM: Removal of polling from DTM assignment (R00)	Ericsson	Approved
GP-000124	CR 44.018-005 DTM: Correction of timers T3148 and T3107 (R00)	Ericsson	Revised
GP-000343	CR 44.018-005 rev 1 DTM: Correction of timers T3148 and T3107 (R00)	Ericsson	Approved
GP-000128	CR 44.018-006 DTM: tunnelling of GPRS signalling on the main DCCH (R00)	Nokia / Vodafone	Approved
GP-000133	CR 44.018-007 DTM: provision of GPRS information for correct DTM behaviour (R00)	Vodafone	Revised

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Tdoc	Title	Source	Status
GP-000315	CR 44.018-007 rev 1 DTM: provision of GPRS information for correct DTM behaviour (R00)	Vodafone	Approved
GP-000138	CR 44.018-008 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R00)	Vodafone	Revised
GP-000318	CR 44.018-008 rev 1 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R00)	Vodafone	Approved
GP-000143	CR 44.018-009 DTM: alignment of the handover procedure (R00)	Vodafone	Approved
GP-000145	CR 44.018-010 DTM: clarification of Radio Link Failure and RR connection abortion while in DTM (R00)	Vodafone	Approved
GP-000147	CR 44.018-011 DTM: removal of the Main DCCH Assignment message (R00)	Vodafone	Revised
GP-000338	CR 44.018-011 rev 1 DTM: removal of the Main DCCH Assignment message (R00)	Vodafone	Approved
GP-000151	CR 44.018-012 DTM: definition (R00)	Vodafone	Approved
GP-000156	CR 44.018-013 Support of 11 bits request reference in IA and IAR messages (R00)	Alcatel	Revised
GP-000390	CR 44.018-013 rev 1 Support of 11 bits request reference in IA and IAR messages (R00)	Alcatel	Approved
GP-000180	CR 44.018-014 DTM: GPRS information for DTM operation - TBF re-establishment (R00)	Ericsson	Approved
GP-000186	CR 44.018-015 Correction of Table 10.5.60/GSM 44.018 (R00)	Ericsson	Withdrawn
GP-000192	CR 44.018-016 Interpretation addition of CELL_BAR_QUALIFY_2 value (R00)	Ericsson	Approved
GP-000096	CR 44.018-017 DTM+EGPRS (R00)	Nokia	Approved
GP-000267	CR 44.018-018 Correction on Measurement Info Message (R00)	Nortel Networks	Approved
GP-000205	CR 44.018-019 SI2ter bit map correction (R00)	Vodafone	Revised
GP-000386	CR 44.018-019 rev 1 SI2ter bit map correction (R00)	Vodafone	Approved
GP-000207	CR 44.018-020 SI2quater updates to allow GPRS->UMTS Cell-Reselection (R00)	Vodafone	Approved
GP-000210	CR 44.018-021 Detailed coding modifications for the pre-configurations (R00)	Vodafone	Revised
GP-000412	CR 44.018-021 rev 1 Detailed coding modifications for the pre-configurations (R00)	Vodafone	Approved
GP-000212	CR 44.018-022 Allowing MT calls when downloading pre-configurations (R00)	Vodafone	Withdrawn

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Tdoc	Title	Source	Status
GP-000214	CR 44.018-023 Handover to UMTS description procedure including "blind handover" to UMTS	Vodafone	Revised
GP-000357	CR 44.018-023 rev 1 Handover to UMTS description procedure including "blind handover" to UMTS	Vodafone	Approved
GP-000271	CR 44.018-024 Correction on UTRAN classmark change procedure (R00	Nortel Networks	Revised
GP-000354	CR 44.018-024 rev 1 Correction on UTRAN classmark change procedure (R00	Nortel Networks	Approved
GP-000235	CR 44.018-025 Handover to UTRAN Command message format (R00)	Ericsson	Revised
GP-000388	CR 44.018-025 rev 1 Handover to UTRAN Command message format (R00)	Ericsson	Withdrawn
GP-000237	CR 44.018-026 RAB pre-configuration (R00)	Ericsson	Revised
GP-000349	CR 44.018-026 rev 1 RAB pre-configuration (R00)	Ericsson	Withdrawn
GP-000260	CR 44.018-027 Editorial correction on RR Packet Uplink/Downlink Assigment (R00)	Nokia	Revised
GP-000307	CR 44.018-027 rev 1 Editorial correction on RR Packet Uplink/Downlink Assigment (R00)	Nokia	Approved
GP-000289	CR 44.018-028 UE Security in UTRAN CM CHANGE (R00)	Ericsson	Revised
GP-000351	CR 44.018-028 rev 1 UE Security in UTRAN CM CHANGE (R00)	Ericsson	Withdrawn
GP-000359	CR 44.018-029 Noise suppression control for AMR	BellSouth, DT, BT, FT	Approved
GP-000034	CR 48.008-001 VBS/VGCS assignment request message can be piggy-backed in a SCCP Connection Request message (R00)	ETSI STF139	Approved
GP-000033	CR 48.008-002 CLEAR REQUEST use precision with VGCS/VBS call (R00)	ETSI STF139	Approved
GP-000012	CR 48.008-003 Subject: Geographic Shape Restriction in LCS (R00)	Siemens ICM	Approved
GP-000141	CR 48.008-004 DTM: correction to DTM information in Old BSS to new BSS Information IE (R00)	Vodafone	Approved
GP-000149	CR 48.008-005 DTM: deletion of reference to PDSS2 (R00)	Vodafone	Approved
GP-000153	CR 48.008-006 DTM: clarification of the use of the COMMOM ID message (R00)	Vodafone	Revised
GP-000340	CR 48.008-006 rev 1 DTM: clarification of the use of the COMMOM ID message (R00)	Vodafone	Revised

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Tdoc	Title	Source	Status
GP-000423	CR 48.008-006 rev 2 DTM: clarification of the use of the COMMOM ID message (R00)	Vodafone	Approved
GP-000174	CR 48.008-007 32 kbit/s UDI/RDI multimedia in GSM (R00)	Nokia	Revised
GP-000383	CR 48.008-007 rev 1 32 kbit/s UDI/RDI multimedia in GSM (R00)	Nokia	Approved
GP-000176	CR 48.008-008 Correction of Signalling Field Element Coding (R00)	Nokia	Approved
GP-000178	CR 48.008-009 Source Identification (R00)	Nokia	Revised
GP-000346	CR 48.008-009 rev 1 Source Identification (R00)	Nokia	Approved
GP-000269	CR 48.008-010 Various corrections about Intersystem HO(R00)	Nortel Networks	Rejected
GP-000231	CR 48.008-011 Correction on LCS message coding (R00)	Ericsson	Rejected
GP-000233	CR 48.008-012 CIC allocation correction (R00)	Ericsson	Witthdrawn
GP-000287	CR 48.008-013 Old to new BSS container (R00)	Ericsson	Revised
GP-000416	CR 48.008-013 rev 1 Old to new BSS container (R00)	Ericsson	Revised
GP-000425	CR 48.008-013 rev 2 Old to new BSS container (R00)	Ericsson	Revised
GP-000475	CR 48.008-013 rev 3 Old to new BSS container (R00)	Ericsson	Revised
GP-000477	CR 48.008-013 rev 4 Old to new BSS container (R00)	Ericsson	Approved

LIST of approved Wis

TD GP-0000296 **Terms of references for TSG GERAN Adhoc meetings**

TD GP-0000473 **Detailed workplan for TSG GERAN** was revised in TD GP-0000480.

TD GP-0000430 **Proposed Work Item: Evolution of Iucs interface**

TD GP-0000431 **Proposed Work Item: Evolution of A interface**

TD GP-0000432 **Proposed Work Item: Low chip rate TDD Interworking with GERAN**

TD GP-0000433 **Proposed Work Item: GERAN improvement part 1**

TD GP-0000434 **Proposed Work Item: Gb over Ip**

TD GP-0000435 **Proposed Work Item: GERAN improvements part 2**

TD GP-0000436 **Proposed Work Item: Gb enhancements**

TD GP-0000464 **Proposed Work Item: GERAN radio interface evolution**

TD GP-0000438 Overall concept for GERAN radio interface evolution to TD GP-0000447 were all agreed.

TD GP-0000448 **Proposed Work Item: BTS Conformance test for GERAN interface evolution**

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TD GP-0000449 to TD GP-0000452 on GERAN 700 MHz spectrum support were all agreed.

TD GP-0000453 to TD GP-0000455 on AMR were all agreed.

TD GP-0000456 to TD GP-0000459 on LCS were all agreed.

TD GP-0000429 **Proposed Work Item: GERAN/UTRAN interface evolution** was agreed in TD GP-0000481 with the addition of AT&T Wireless, Mitsubishi and Motorola.

TD GP-0000478 **GERAN/UTRAN Interface Evolution** (reference 421 to be replaaced by 431)

TD GP-0000480 **Detailed workplan for TSG GERAN**

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Annex E: Approved Liaison Statements

Tdoc no.	Title	Intended for	Copy to
TD GP-000298	**LS on GERAN requirements for Multimedia control signalling**	**TSG-SA WG2**	**TSG-CN WG1**
TD GP-000374	**LS on inter-BSC hard handover in GERAN for the packet switched domain**	**TSG-SA WG2**	**TSG-RAN WG3, TSG-RAN WG2**
TD GP-000472	**LS on the Support of the RATSCCH**	**TSG-SA WG4**	
TD GP-000051	**LS to ETSI JWG-TC74 regarding TR 101 075**	**ETSI JWG TC74**	
TD GP-000265	**LS on preventing unciphered writing/overwritting of pre-configuration fields by the HPLMN**	**TSG-SA WG3, TSG-T WG3**	**TSG-RAN WG2, TSG-SA WG1**
TD GP-000355	**LS to SA2 on 23.060 CRs for Dual Transfer Mode**	**TSG-SA WG2**	
TD GP-000396	**LS on the introduction of EGPRS for DTM**	**TSG CN WG1**	
TD GP-000418	**LS on GSM 700 addition into MS classmark & radio access capability IE** (with TD GP-000417 attachment)	**TSG CN WG1**	
TD GP-000414	**Response to LS from CN WG1 on Proposal of exchange of terms "in GSM" and "in UMTS"**	**TSG CN WG1**	**TSG-SA WG1, TSG-SA WG2, TSG-RAN WG2**

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ANNEX F - Report from WG1 at GERAN#1

Technical Specification Group GERAN WG1 Radio Aspects
Meeting #1, Seattle, WA, U.S.A, 29 - 31 August 2000

Draft report

Source: **Secretary TSG GERAN WG1, Paolo Usai**

Title: **Draft Report of TSG GERAN WG1 meeting #1, version 0.0.1**

Document for: **Comment**

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8.1.1 Opening of the meeting

The meeting was opened by the TSG GERAN WG1 Acting Chairman, Mr. Niels Peter Skov Andersen.

8.1.2 Approval of the Agenda

The TSG GERAN WG1 Convenor Niels Peter Skov Andersen presented the Draft Agenda.

The agenda followed the same outline as at previous SMG2 WPB meetings.

The Draft Agenda for TSG GERAN WG1 during TSG GERAN no. 1 in Seattle, provided in TD GP-000002 was agreed.

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8.1.3 Review of GERAN WG1 work area

The GERAN WG1 work area was briefly summarised by the TSG GERAN WG1 Convenor.

8.1.4 Letters / Reports from other groups

8.1.4.1 TSG-CN, TSG-RAN, TSG-SA, TSG-T and PCG/OP

8.1.4.2 From Partners and their bodies

8.1.4.3 Others

None.

8.1.5 Technical work

8.1.5.1 Packet radio (GPRS)

TD GP-000105 **CR 05.10-A059 Correction of assignment reaction time (R99)**, from Ericsson was agreed.

TD GP-000273 **CR 05.08-A294 BTS RF power control (R97)**, from Alcatel was presented by Mr. P. Savelli; Mr. B. Persson asked to leave a generic GMSK modulation term instead than specifying CS1 to CS4 schemes. Mr. M. Pecen clarified the technical implications. The CR was requested by Mr. H. van Bussel to be applicable to R99 only, which was supported by Moytorola. The CR was rejected.

TD GP-000274 **CR 05.08-A295 BTS RF power control (R98)**, from Alcatel was agreed. The CR was rejected.

TD GP-000275 **CR 05.08-A296 BTS RF power control (R99)**, from Alcatel was revised in TD GP-000325.

TD GP-000325 **CR 05.08-A296 rev 1 BTS RF power control (R99)**, from Alcatel was agreed.

TD GP-000126 **Dual Transfer Mode: concept document**, from Vodafone was dealt with also under A. I. 7.6 and A. I. 8.2.5.1. It was provided for information. In Sect 5.2.2. the Note was requested to be clarified, AMR HR being the mandatory codec. The document will be amended. Noted.

TD GP-000090 **CR 03.64-A073 DTM (R99)**, from Nokia, was presented by Mr. G. Sebire. The CR was revised in TD GP-000326

TD GP-000326 **CR 03.64-A073 rev 1 DTM (R99)** was agreed.

TD GP-000091 **CR 03.64-A074 DTM+EGPRS (R99)**, from Nokia, was conditionally agreed, under the assumption that the technical details are agreed as well. Agreed.

TD GP-000154 **CR 03.64-A075 DTM: alignments (R99)**, from Vodafone Air Touch, was presented by Mr. A. El-Saigh; it was revised in TD GP-000327.

TD GP-000327 **CR 03.64-A075 rev 1 DTM: alignments (R99)** was agreed.

TD GP-000092 **CR 05.01-A028 DTM (R99)**, from Nokia, was presented by Mr. G. Sebire. Minimum requirements for DTM MSs, i.e. what features shall have to be (at least) supported, were requested to be clearly specified by Mr. H. van Bussel. M. Pecen agreed to check this aspect. The CR was agreed.

TD GP-000093 **CR 05.01-A029 DTM+EGPRS (R99)**, from Nokia was presented by Mr. G. Sebire. CRs to GSM 05.05 were requested to be added, specifying the performance requirements of the new channel coding schemes. It was requested to provide the requested performance info at next meeting. Power control issue was brought up by Mr. D. Choukroun. Mr. H. Jokinen replied that quality reporting should allow to control the power. DTX case was felt of interest. Check of restrictions (power difference between time slots) was requested to be performed. Conclusion: depending on the MS capability, the network will select the power control to be used. The CR was agreed.

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TD GP-000094 **CR 05.02-A162 DTM (R99)**, from Nokia, was presented by Mr. G. Sebire. It was agreed (single slot case was requested to be checked).

TD GP-000321 **CR 05.05-A170 Correction on CS-4 performance requirement (R97)**, from Alcatel, was agreed.

TD GP-000322 **CR 05.05-A171 Correction on CS-4 performance requirement (R98)**, from Alcatel, was agreed.

TD GP-000323 **CR 05.05-A172 Correction on CS-4 performance requirement (R99)**, from Alcatel, was agreed.

TD GP-000328 **CR 05.08-A297Class A Dual Transfer Mode (DTM): correction to reporting procedures (R99)**, from Motorola, was presented by Mr. M. Pecen. It was agreed.

TD GP-000329 **CR 05.08-A298 Requirements for search, verification and BSIC decoding of adjacent cells while in packet transfer mode (R99)**, from Motorola, was presented by Mr. M. Pecen. It was revised in TD GP-000364.

TD GP-000364 **CR 05.08-A298 rev 1 Requirements for search, verification and BSIC decoding of adjacent cells while in packet transfer mode (R99)** was agreed.

TD GP-000426 **CR 05.01-A031 Minimum Mobile Station Class and Channelisation Capabilities**, from Motorola, was agreed. Another CR to GSM 05.02 was awaited as well. Nortel commented that the definition of the multislot class for DTM in this Cr was not in line with the concept paper and previous Crs where TCH/HR + PDCH/F is a possible multislot configuration. Some clarifications were also requested about the compatibility between DTX and DTM mode of operation : the convenor answered that otherwise stated all the features included in the specifications are applicable to DTM mode of operation.

8.1.5.2 GSM-3G handovers and multimode operation

TD GP-000104 **CR 05.08-A291 Corrections to Inter System Handover and Cell re-selection (R99)**, from Ericsson, was presented by Mr. B. Persson. In Sect. 6.6.4 a question was raised on the definition of neighbour cell list. It was clarified that blank handover is not covered. A number of comments/ questions for clarifications were made. Handover test case using additive White Gaussian Noise was felt linked to a specific radio propagation condition rather than a generic one; generalisation of the requirement was requested, but then the testing would become difficult to be performed. Also requirements set on the network side rather than on the mobile side was felt a matter of concern for operators. Alignment with RAN WG4 specifications was requested. Editorial changes were requested to the text. Other changes were felt possible by Nokia. Handover 2G-2G was clarified it was not intended to include it in the CR. The convenor stated than the 2G/2G blind handover could be useful for dual band networks.The CR was revised in TD GP-000330.

TD GP-000330 **CR 05.08-A291 rev 1 Corrections to Inter System Handover and Cell re-selection (R99)** was agreed.

TD GP-000220 **CR 05.10-A061 Addition of the switching requirement for the GSM to UTRAN (R99)**, from Nokia, was preliminarily addressed by Ms. J. Pekonen.Speech interruption time and “ready-to-transmit” were felt worth-specifying, or left tbd. The CR was agreed to be drafted. Values were based on a LS from TSG RAN WG4. It was agreed.

TD GP-000403 **Proposed Work Item: Handover and Cell Selection/Reselection to UTRA low chip rate TDD**, from Siemens, was presented by Mr. D. Thomas. Motorola was added as a further supporting Company. The title will be updated. It was revised in TD GP-000432.

TD GP-000432 Proposed Work Item: Low chip rate TDD Interworking with GERAN. It was left for the Plenary session.

8.1.5.3 Enhanced Packet radio (E-GPRS) R99

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TD GP-000101 **CR 05.08-A288 Clarifications on EGPRS Quality parameters (R99)**, from Ericsson, was presented by Mr. B. Persson. It was felt a good starting point. Clarifications were requested and support for the revision was asked to be provided by the experts in the field. It was revised in TD GP-000361.

TD GP-000361 **CR 05.08-A288 rev 1 Clarifications on EGPRS Quality parameters (R99)** was agreed.

TD GP-000103 **CR 05.08-A290 Clarifications of interference measurements for COMPACT (R99)**, from Ericsson, was presented by Mr. B. Persson. It was discussed and revised in TD GP-000362.

TD GP-000362 **CR 05.08-A290 rev 1 Clarifications of interference measurements for COMPACT (R99)** was agreed.

TD GP-000106 **CR 05.02-A163 Corrections to COMPACT (R99)**, from Ericsson, was presented by Mr. B. Persson. It was agreed.

TD GP-000195 **CR 05.02-A165 Editorial corrections related to COMPACT (R99)**, from Motorola, was presented by Mr. P. Fouilland. It was agreed.

TD GP-000194 **Maximum bit rate indication for radio interface**, from Motorola, Nokia, Mitsubishi, BT-Cellnet, was presented by Mr. P. Fouilland. The proposal was already raised at the previous meeting SMG2. It was commented by Mr. D. Choukroun that imposing further implementation constraints would cause matter of concern for Nortel Networks. Mr. J. Achard (Alcatel) commented that implementation was already started, felt the proposal still incomplete in some parts, and therefore could not support it. The Chairman asked whether the CR could be addressed instead to R00. Compatibility problems were raised by Mr. B. Persson (Ericsson). Clarifications were given on the implications of the proposal on MS and network sides. One operator felt that TDMA systems could benefit from the proposal. The discussion indicated that the limit should be put on the upper layer rather than on the lower ones. Conclusion: the complexity of the issue required further consideration before a valid solution is found and commonly agreed.

TD GP-000196 **CR 05.02-A166 Maximum bit rate indication for radio interface (R99)**, from Motorola, Nokia, Mitsubishi, BT-Cellnet was rejected.

8.1.5.4 Enhanced Circuit Switched Data (ECSD) R99

None.

8.1.5.5 Enhanced Data Rates for GSM Evolution (EDGE) R99

TD GP-000013 **CR 05.05-A162 Pico BTS Reference interference level clarification (R99)**, from Siemens, was presented by Mr. B. Toner. It was agreed.

TD GP-000088 **CR 05.05-A173 Clarification of BTS output power capability with 8-PSK (R99)**, from Ericsson & Nokia, was presented by Mr. M. Samuelsson. Mr. J. Achard requested a re-wording of the text. Clarification of the last changed paragraph was given by Mr. H. Jokinen. The CR was revised in TD GP-000363.

TD GP-000363 **CR 05.05-A173 rev 1 Clarification of BTS output power capability with 8-PSK (R99)** was agreed.

8.1.5.6 GSM/EDGERAN release 2000 and beyond

TD GP-000169 **Reduction of the service outage time at Cell reselection in GPRS/EDGE/GERAN**, from Ericsson, was presented by Mr. S. Ekemark. This paper proposes a possibility to fasten the Cell reselection in existing GPRS/EGPRS and future GERAN networks in order to shorten the service outage time when the MS performs an intra BSC Cell Reselection in Packet Transfer mode. Comments were made on Sect. 4.4 about transfer interrupt and on Sect. 5.2 on the limited improvement that could be extended to the NC2 mode of operation. It was acknowledged that the remarks were correct. Cell reselection period was found in real cases too long by Mr. U Teght. Mr. S. Hamiti asked how inter–BSS cell re-selection would work, and further signalling was felt needed in such case. The principles of the contribution were welcomed by Mr. A.El-Saigh. Multi-mode operation was questioned how it would work. Mr. F. Muller asked whether the subject

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would justify to open a new Work Item. The work plan will include this new Feature, related to the Conversational class handover.

TD GP-000226 **GERAN cells using discontinuous broadcast**, from Motorola, was presented by Mr. P. Fouilland. This paper proposes a solution to use CPBCCH concept on pure packet data cells with normal spectrum available. It was proposed to include this solution in GERAN R00 standard. Comments: COMPACT was questioned whether it would be mandatory in R99 for all bands in EGPRS. Real Time channel (for 7 channels) would be impossible. The document was felt a potential enhancement to COMPACT operation, and the Companies interested were invited to pursue the idea. Noted.

TD GP-000162 **Legacy transceivers**, from Ericsson, was presented by Mr. K. Sjerling. It was treated together with

TD GP-000272 **Initial requirements for legacy transceivers**, from Nortel Networks, was presented by Mr. D. Choukroun.

Comments: legacy transceiver “definition” was asked to be clarified. Existing CCU and AMR only adoption was questioned. Mr. A. Ohana remarked that any alternative solution to the previously agreed one (support of FR, HR, EFR, AMR) should prove to be worthwhile or more complicated than supporting AMR only. Support of AMR was requested by Ericsson to be sufficient for legacy transceiver, which would request to specify was codecs are mandatory in MSs (e.g. FR). The codec negotiation issue was raised by Mr. S. Hamiti. Mr. R. Kar felt the AMR only support acceptable. This was also felt a viable solution by Vodafone AirTouch, while other operators were not in favour to replace the existing legacy transceivers (supporting EFR, HR and/or FR only). Mr. R. Ejzak felt further discussion needed. The Convenor felt multiple codecs should be supported in any case. Conclusion: after the discussion, it was concluded that it was premature to change the requirements, as some operators clearly had a preference for compatibility with legacy transceivers. However, the requirement can be reconsidered when the impact of the requirements are known, i.e. when the technical solutions will be examined, at the same time an evaluation of the consequences will be taken into account. The modifications to the Radio requirements document 3G 10.99 will eventually be prepared by the proponent Companies. The convenor proposed that the additional requirements (data part) proposed by Nortel Networks be added to stage 2.

TD GP-000040 **PowerPoint Presentation: Options for Implementing GERAN Packet-Switched Call Setup, Supplementary Services, and Call Release Using SIP**, from Nortel Networks, was presented by Mr. P. Barany. The presentation covered also TD GP-000036, TD GP-000037, TD GP-000038, TD GP-000039. A number of questions for clarifications were made after the presentation. Signalling system/model was felt maybe differing from the used assumptions. In addition to the detailed questions and comments , it was noted that more detailed information from TSG-SA WG2 and TSG-CN on typical SIP signal flows and the requirements for the bearers for the SIP signalling is needed.

TD GP-000036 **A Comparison Between GERAN Packet-Switched Call Setup Using SIP and GSM Circuit-Switched Call Setup Using RIL3-CC, RIL3-MM, RIL3-RR, and DTAP, Rev. 0.1**, from Nortel Networks, was presented by Mr. P. Barany.

TD GP-000037 **A Comparison Between GERAN Packet-Switched Call Release Using SIP and GSM Circuit-Switched Call Release Using RIL3-CC, RIL3-MM, RIL3-RR, and DTAP**, from Nortel Networks, was presented by Mr. P. Barany.

TD GP-000038 **A Comparison Between GERAN Packet-Switched Supplementary Services Using SIP and GSM Circuit-Switched Services Using RIL3-CC, RIL3-MM, RIL3-RR, and DTAP**, from Nortel Networks, was presented by Mr. P. Barany.

TD GP-000039 **Options for Implementing GERAN Packet-Switched Call Setup, Supplementary Services, and Call Release Using SIP, Rev. 0.1**, from Nortel Networks, was presented by Mr. P. Barany.

TD GP-000243 **Analysis of SIP signalling over GERAN Radio Interface**, from Nokia, was presented by Mr. S. Hamiti. Noted with the same overall conclusion as for the above contributions.

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TD GP-000042 **Packet Data Traffic Models for E-Mail (With and Without Attachments) and Streaming Multimedia Applications,** from Nortel Networks, was presented by Mr. C. Bontu. It was commented that other layers should be taken into account.

TD GP-000167 **RAB design based on ECSD**, from Ericsson, was already presented at the WS held in Helsinki. It was clarified that CS-1 to CS-4 would be compatible with legacy transceivers.

TD GP-000117 **Conversational and Streaming RAB Realization**, from Lucent Technologies, was already dealt with under A. I. 7.4. It was presented by Mr. R. Ejzak who reminded the document was superseded by TD GP-000376. Noted.

TD GP-000255 **Streaming Radio Access Bearer**, from Nokia, was presented by Mr. B. Sebire. Legacy coding schemes were again raised as a possible issue. Also this document was superseded by TD GP-000376. Noted.

TD GP-000159 **Coding Scheme Comparison for GERAN**, from Ericsson, was presented by Mr. K. Sjerling. It was commented that ECSD and MCS coding would need to be compared taking into account the interleaving effect. The conclusion given in the document that ECSD coding schemes perform better than MCS ones was felt not conclusive yet by Mr. F. Gabin. Both coding schemes were proposed to be supported for streaming RABs by Mr. R. Ejzak. Mr. A. Ohana suggested to consider directly TD GP-000376.

TD GP-000116 **RLC with Limited Retransmissions for Streaming Service Class**, from Lucent Technologies, was presented by Mr. R. Ejzak. Impact on compression was requested to be investigated.

TD GP-000376 **Proposed Changes to Stage 2 Description: Generic Conversational and Streaming RAB Realization**, from AT&T, Bell South, Ericsson, E-Plus, IDC, Lucent, Mitsubishi, Motorola, Nokia, Nortel, SBC, Siemens, was presented by Mr. R. Ejzak. The document was commented by Mr. D. Bladsjo and D. Choukroun. It was found acceptable, however a drafting group was formed to correct a few errors and include other decisions made in the meeting. An updated version of the document was proposed to be provided until the end of WG1 meeting, c/o the drafting session held off-line.

TD GP-000044 **PowerPoint Presentation: GSM/EDGE Radio Access Network (GERAN) Real-Time Fast Associated Control Channel (RTFACCH) Simulations**, from Nortel Networks, was a presentation of the following document

TD GP-000043 **GSM/EDGE Radio Access Network (GERAN) Real-Time Fast Associated Control Channel (RTFACCH) Simulations**, from Nortel Networks, that was presented by Mr. C. Bontu. The simulation results showed that the C/I performance of the best-effort data user (with MCS-1 coding scheme) is not affected by the presence of RTRRM. The simulations results presented also show that the best-effort data user carrier power increases relative to the RTRRM power level, the RTRRM WER degrades slightly. Finally, the simulation results also show that for 100% of the RTRRM receptions are successful within 50 ms at <R/I> of 0 dB and <C/I> less than 7.5 dB. Questions for clarifications and doubts on (needless) signalling traffic were raised. Noted.

TD GP-000115 **Fast Access for Short TBFs**, from Lucent Technologies, was left for WG2 consideration.

TD GP-000166 **Fast Access based on Access Request Identifier**, from Ericsson, was left for WG2 consideration.

TD GP-000041 **Expected Changes to GSM 05.02, 05.08, and 05.09 for GERAN Release 2000, Rev. 0.1**, from Nortel Networks, was presented by Mr. P. Barany. Noted.

TD GP-000160 **Expected changes in 05.01, 03 and 05 due to GERAN R'00**, from Ericsson, was presented by Mr. K. Sjerling. Noted.

TD GP-000118 **Stealing Bit Options for OS2 Multiplexing**, from Lucent Technologies, was presented by Mr. K. Conner. Stealing bit performance and impact on speech were stressed as of importance. Noted.

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TD GP-000254 **Multiplexing on Dedicated Physical SubCHannel**, from Nokia, was presented by Mr. B. Sebire. Questions for clarifications were made mainly on 8-PSK/GMSK speech case and the number of stealing bits necessary. Position on the use of USF was clarified. Noted.

Mr. K. Sjerling asked to consider the Nokia/Lucent results and wondered whether it would be worth taking a decision on Operational Scenario 2 now instead than waiting until next time. More time was requested from AT&T to investigate the consequences, and aaT&T remarked as well that OS2 was agreed to be part of R00. Speech channel coding was asked not be changed, in order not to impact negatively on quality and complexity, and such restriction could limit OS2 implementation for TCH. Conclusion: no decision was taken on the OS2 issue at this meeting.

TD GP-000120 **Performance Studies of Space-Time Coding for EGPRS**, from Lucent Technologies, was presented by Mr. K. Conner. A number of questions for clarifications were raised about the applications and it was also commented that antenna test methods would be needed when writing new specifications including such type of technologies. Noted as for future release.

TD GP-000161 **8-PSK HR Voice Bearer performance**, from Ericsson, presented listening test results that confirmed that 8-PSK HR gives a speech quality improvements for medium to high C/I but it does not improve the robustness at low C/I compared to TCH/AHS. The target requirement of a 3-4 dB delta from TCH/AFS was not met. At the suggested point, MR74 1% FER, the FER curves show a 5.5 dB delta and approximately the same difference can be seen in the listening test results. Noted.

TD GP-000257 **AMR Speech Codec in 8-PSK Half Rate Channel**, from Nokia, was presented by Mr. B. Sebire. This document presented only preliminary work on NB AMR codec in 8PSK half rate channels. Some test results were asked to be clarified, and brought to the attention of TSG-SA WG4, including as well the results of the previous document. It was left to individual Companies to provide the documents to S4. Noted.

AT&T remarked that the requirements should be seen just as a target ones.

TD GP-000253 **Realization and Channel Coding of new AMR Bearers**, from Nokia, was presented by Mr. B. Sebire. In this document some suggestions are made in order to keep the complexity of the channel coding at a reasonable level by reusing what has already been standardised. Noted.

TD GP-000256 **Performance Analysis of Quarter Rate Channels**, from Nokia, was presented by Mr. B. Sebire. Quarter Rate Channels showed significant potential capacity gain. Noted.

TD GP-000402 **SACCH design for QR Channel**, from Nortel Networks, was presented by Mr. F. Gabin. Feedback from the group on this proposal was requested. The comparison with TCH/AHS 4.75 as well as the TCH/FS showed that the QR SACCH proposed by Nortel Networks is robust enough. The rationale was felt justified by the convenor. Noted.

TD GP-000239 **Header Stripping Save Spectrum with PC Based Voice Service**, from AT&T Wireless Services, was WITHDRAWN.

TD GP-000244 **Common View on Header Adaptation definitions**, from Nokia, Ericsson, Lucent, Nortel, Siemens, was replaced by

TD GP-000404 **Proposal for header adaptation definitions**, that was presented by Mr. S. Hamiti. It was agreed to include the content in TS 43.051. Noted.

TD GP-000298 **LS on GERAN requirements for Multimedia control signalling**, was presented by Mr. F. Muller. It was agreed.

TD GP-000216 **Proposals for GERAN shared MAC mode in R00**, from Alcatel, was dealt with also by WG2 under A. I. 8.2.5.6. It was provided for information. Noted.

TD GP-000217 **Proposals for GERAN MAC Layer in R01**, from Alcatel, was WITHDRAWN.

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TD GP-000119 **Potential R2001 Capacity Enhancing Features**, from Lucent Technologies, was presented by Mr R. Ejzak. Simulation studies on DCA were presented already at Helsinki. Some questions for clarifications were made. Noted.

TD GP-000401 **Detailed planning for GERAN**, was presented by Mr. F. Muller. A work plan covering all TSG GERAN related aspects was proposed. It should be noted, that the completion dates reflect rather the date when the work is completed than a release date. The expected revised version will be incorporated in the 3GPP Work Plan.

TD GP-000297 **LS on inter-BSC hard handover in GERAN** was presented by Mr F. Muller. It was revised in TD GP-000374.

TD GP-000374 **LS on inter-BSC hard handover in GERAN for the packet switched domain** was left for the Plenary session.

TD GP-000437 **Proposed Work Item: GERAN radio interface evolution**, was presented by Mr. F. Muller.It was revised in TD GP-000464. It was left for the Plenary session.

8.1.5.7 SoLSA

None.

8.1.5.8 Antenna test methods

TD GP-000241 **Validation of Handset Antenna Test Methods**, from Telia, was presented by Mr. U. Tegth. It was provided for information. Noted.

8.1.5.9 Location Services (LCS)

TD GP-000172 **Proposed changes to draft LCS Stage 2 spec in GERAN (R00)**, from Qualcomm, was found acceptable. Noted as for incorporation in the stage 2 description contained in Tdoc GP-000075.

TD GP-000075 **TS 43.059 ver. 0.0.1 Stage 2 Description of location Services in GERAN (R00)**, from Nokia, was noted. It was dealt with also under A. I. 7.1. and A. I. 8.2.5.9.

8.1.5.10 Support of Frequency bands

TD GP-000087 **CR 05.05-A165 Introduction of GSM 700 in 05.05 GSM on 700 MHz Frequency Band (R00)**, from Ericsson, was presented by Mr. M. Samuelsson. Comments. A clarification was requested on 30W devices. Transmitter antenna for testing was clarified to be the one used in practice. Backward compatibility, channel numbering using 14 bits or codebook approach, frequency allocation band and stringent safety band requirements issues were raised. MS should fulfil the more stringent requirements (also for noise aspects), if circulated worldwide. Conclusion: The CR was revised in TD GP-000370.

TD GP-000370 **CR 05.05-A165 Introduction of GSM 700 in 05.05 GSM on 700 MHz Frequency Band (R00)** was agreed.

TD GP-000221 **CR 03.22-A050 GSM 700 spectrum update (R00)**, from Nokia, was presented by Ms. J. Pekonen. It was agreed.

TD GP-000222 **CR 03.30-A011 GSM 700 cell sizes and RF budgets (R00)**, from Nokia, was presented by Ms. J. Pekonen. It was agreed.

TD GP-000223 **CR 05.01-A030 Introduction of GSM 700 in 05.01 (R00)**, from Nokia, was presented by Ms. J. Pekonen. It was agreed.

TD GP-000224 **CR 05.08-A293 GSM 700 bands introduced in 05.08 (R00)**, from Nokia, was presented by Ms. J. Pekonen. It was agreed.

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TD GP-000427 **GSM 400 system; Implementation guidelines (R97)**, was presented by Ms. J. Pekonen. It was remarked that RF requirements for 03.22, 05.05, 05.08 and 05.10 areas had to be covered as well. Further requirements for MS supporting GSM400 were listed. Sect. 6 would then not be needed. Version numbers to be deleted in Sect. 2.

TD GP-000428 **GSM 400 system; Implementation guidelines (R98)**, was presented by Ms. J. Pekonen. Previous comments apply as well.

Both documents were revised, respectively in

TD GP-000461 GSM 09.9x Release Independent Frequency Bands; Implementation guidelines (R97), Version 1.0.0, and

TD GP-000462 GSM 09.9x Release Independent Frequency Bands; Implementation guidelines (R98), Version 1.0.0.

8.1.5.11 Adaptive Multirate codec

TD GP-000291 **CR 05.09-A008 ACS changes (R98)**, from Nortel Networks, was presented by Mr. F. Gabin. A debate took place about the real advantage of the functional modification (avoidance of lost frame) in front of the additional implementation complexity imposed to the MS. The CR was rejected.

TD GP-000292 **CR 05.09-A009 ACS changes (R99)** was rejected.

TD GP-000293 **CR 05.09-A010 RATSCCH Mapping (R98)**, from Nortel Networks, was presented by Mr. F. Gabin. The potential problem was identified. Mr. B. Persson remarked the mapping would be changed, and suggested just to add a Note, and not to accept the CR for R98. Mr. H. Jokinen remarked also the MS should handle a different scheduling. It was recognized the change would improve the performance, but it was felt not desirable as mandatory for R98. Additionally, a LS was agreed to be drafted to S4 illustrating the general RATSCCH issue and the related concern about this mechanism. The CR was WITHGDRAWN. The convenor proposed that an alternative solution would be for the emitter of the RATSCCH message to handle the RATSCCH protocol differently when such a case happens.

TD GP-000294 **CR 05.09-A011 RATSCCH Mapping (R99)**. The CR was WITHGDRAWN.

TD GP-000460 **Draft Liaison Statement on RATSCCH** was presented by Mr. A. Ohana. It was revised in TD GP-000463. It was left for the Plenary session.

TD GP-000295 **Error Patterns and Error Insertion Device for EDGE circuits**, from Nortel Networks, was presented by Mr. F. Gabin. The document describes how error patterns for EDGE are formatted, how they were generated and how to use the EID module in the processing for AMR Wideband selection phase. It was endorsed by TSG GERAN WG1.

TD GP-000375 **Work item description for wide band AMR support in GERAN** was presented by Mr. A. Ohana. Conformance testing for MS and BTS were asked to be added. The revised version was produced in Tdoc TD GP-000453. It was left for the Plenary session.

8.1.5.12 Technical enhancements and improvement

TD GP-000030 **CR 05.05-A163 Alignment of spurious emissions GSM-3G(UTRA): BTS**, from Telia, T-Mobil, was presented by Mr. U. Teght. Question for clarification was requested on the Note. It was agreed.

TD GP-000031 **CR 05.05-A164 Alignment of spurious emissions GSM-3G(UTRA): MS**, from Telia, T-Mobil, was presented by Mr. U. Teght. It was agreed.

TD GP-000098 **CR 05.05-A166 Definition of "small MS" (R97)**, from Ericsson, was presented by Mr. B. Persson. It was commented that hand-held vehicle mounted MS were announced by some manufacturers. The general principle of considering new types of mobiles was raised by the Convenor. Nokia welcomed new clarifications and cleaning of specs in general, but felt the specific CR arguments not sufficient to agree on

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the CR. Mr. R. Kar felt the only relevant issue for new types of mobiles linked to power consumption and EMC issues. The CR was revised in TD GP-000371.

TD GP-000371 **CR 05.05-A166 rev 1 Definition of "small MS" (R97)** was agreed.

TD GP-000099 **CR 05.05-A167 Definition of "small MS" (R98)**, from Ericsson, was presented by Mr. B. Persson. The CR was revised in TD GP-000372.

TD GP-000372 **CR 05.05-A167 rev 1 Definition of "small MS" (R98)** was agreed.

TD GP-000100 **CR 05.05-A168 Definition of "small MS" (R99)**, from Ericsson, was presented by Mr. B. Persson. The CR was revised in TD GP-000373.

TD GP-000373 **CR 05.05-A168 rev 1 Definition of "small MS" (R99)** was agreed.

TD GP-000240 **Fast Uplink Power Control for EGPRS**, from Siemens, was presented by Mr. D. Thomas. Further studies were requested and how DTX is taken into account was requested to be clarified. Noted.

8.1.5.13 Other technical work

TD GP-000006R **CR 03.22-A006 Check selected cell deduced by SI10 information with SI3 ones (R00)**, from ETSI STF139, was presented by Mr. D. Choukroun. It was revised in TD GP-000331.

TD GP-000331 **CR 03.22-A006 rev 1 Check selected cell deduced by SI10 information with SI3 ones (R00)** was agreed.

TD GP-000007 **CR 05.02-A161 NCH clarification (R00)**, from ETSI STF139, was presented by Mr. D. Choukroun. It was agreed.

TD GP-000014 **CR 05.08-A284 Extended measurement report (MAFA) (R96)**, from Siemens, was presented by Mr. F. Goldhofer. The CR category was requested to be modified as category F. More substantially, the change request would impact on existing implementations of the MSs (optional for R96, mandatory for R97 onwards). The CR was debated extensively, since the mobile implementation, following the current text, would violate the specification itself. Several options were considered how to modify the CR, provided the correspondent chCR to GSM 04.08 is agreed. It was revised in TD GP-000332.

TD GP-000332 **CR 05.08-A284 rev 1 Extended measurement report (MAFA) (R96)** was agreed.

TD GP-000015 **CR 05.08-A285 Extended measurement report (MAFA) (R97)**, from Siemens, was requested to be modified as category A. It was revised in TD GP-000333.

TD GP-000333 **CR 05.08-A285 rev 1 Extended measurement report (MAFA) (R97)** was agreed.

TD GP-000016 **CR 05.08-A286 Extended measurement report (MAFA) (R98)**, from Siemens, was requested to be modified as category A. It was revised in TD GP-000334.

TD GP-000334 **CR 05.08-A286 rev 1Extended measurement report (MAFA) (R98)**, was agreed.

TD GP-000017 **CR 05.08-A287 Extended measurement report (MAFA) (R99)**, from Siemens, was requested to be modified as category A. It was revised in TD GP-000335.

TD GP-000335 **CR 05.08-A287 rev 1 Extended measurement report (MAFA) (R99)** was agreed.

TD GP-000102 **CR 05.08-A289 Editorial corrections (R99)**, from Ericsson, was presented by Mr. B. Persson. It was revised in TD GP-000336.

TD GP-000336 **CR 05.08-A289 rev 1 Editorial corrections (R99)** was agreed.

TD GP-000107 **CR 05.02-A164 Removal of GPRS related text (R96)**, from Ericsson, was agreed.

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TD GP-000108 **CR 05.03-A042 Removal of GPRS related text (R96)**, from Ericsson, was agreed.

TD GP-000109 **CR 05.05-A169 Removal of GPRS related text (R96)**, from Ericsson, was agreed.

TD GP-000110 **CR 05.08-A292 Removal of GPRS related text (R96)**, from Ericsson, was agreed.

TD GP-000111 **CR 05.10-A060 Removal of GPRS related text (R96)**, from Ericsson, was agreed.

8.1.6 Letters to other groups

8.1.7 Work plan and future meetings

The Work Items were left for the Plenary session.

A summary of the future meeting dates are given below.

9 - 13 October 2000	**Ad-hoc GERAN** on release 2000 and beyond #2 **in Munich, Germany Host: Siemens**	
6 -10 November 2000	**TSG GERAN#2 +WG1 +WG2 + WG3**	**Host (Ericsson** tbc**)**
11 – 15 December 2000	**Ad-hoc GERAN** on release 2000 and beyond #3 **in Orlando, Florida, USA, Host: Lucent Technologies**	
15 - 19 January 2001	**TSG GERAN#3 +WGs**	**tbd**
2 - 6 April 2001	**TSG GERAN#4 +WGs**	**tbd**
28 May - 1 June 2001	**TSG GERAN#5 +WGs**	**tbd**
27 - 31 August 2001	**TSG GERAN#6 +WGs**	**tbd**
26 - 30 November 2001	**TSG GERAN#7 +WGs**	**tbd**

8.1.8 Any other business

No other business was indicated.

8.1.9 Close of meeting

The TSG GERAN Convenor thanked the hosts for providing the excellent facilities which ensured a smooth-running meeting and thanked the delegates for their hard work and co-operation at the meeting. The meeting was then closed.

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Annex A: Agenda

3GPP TSG GERAN **TSGG#01(00)0002**

Meeting no 1

Seattle, Washington, USA

28 August - 1 September 2000

Draft Agenda for GERAN WG1 Radio Aspects during 3GPP TSG GERAN no. 1 in Seattle

8.1.1 Opening of the meeting

8.1.2 Approval of the Agenda

8.1.3 Review of GERAN WG1 work area

8.1.4 Letters / Reports from other groups

8.1.4.1 TSG-CN, TSG-RAN, TSG-SA, TSG-T and PCG/OP

8.1.4.2 From Partners and their bodies

8.1.4.3 Others

8.1.5 Technical work

8.1.5.1 Packet radio (GPRS)

8.1.5.2 GSM-3G handovers and multimode operation

8.1.5.3 Enhanced Packet radio (E-GPRS) R99

8.1.5.4 Enhanced Circuit Switched Data (ECSD) R99

8.1.5.5 Enhanced Data Rates for GSM Evolution (EDGE) R99

8.1.5.6 GSM/EDGERAN release 2000 and beyond

8.1.5.7 SoLSA

8.1.5.8 Antenna test methods

8.1.5.9 Location Services (LCS)

8.1.5.10 Support of Frequency bands

8.1.5.11 Adaptive Multirate codec

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8.1.5.12 Technical enhancements and improvement

8.1.5.13 Other technical work

8.1.6 Letters to other groups

8.1.7 Work plan and future meetings

8.1.8 Any other business

8.1.9 Close of the meeting

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Annex B: List of documents

3GPP TSG GERAN

Meeting no 1

Seattle, Washington, U.S.A

28 August – 1 September 2000

List of documents

Tdoc	Title	Source	Agenda Item
GP-000002	Draft Agenda for TSG GERAN WG1 during TSG GERAN no. 1 in Seattle	GERAN Convenor	8.1.2
GP-000006	CR 03.22-A049 Check selected cell deduced by SI10 information with SI3 ones (R00)	ETSI STF139	8.1.5.13
GP-000007	CR 05.02-A161 NCH clarification (R00)	ETSI STF139	8.1.5.13
GP-000013	CR 05.05-A162 Pico BTS Reference interference level clarification (R99)	Siemens	8.1.5.5
GP-000014	CR 05.08-A284 Extended measurement report (MAFA) (R96)	Siemens	8.1.5.13
GP-000015	CR 05.08-A285 Extended measurement report (MAFA) (R97)	Siemens	8.1.5.13
GP-000016	CR 05.08-A286 Extended measurement report (MAFA) (R98)	Siemens	8.1.5.13
GP-000017	CR 05.08-A287 Extended measurement report (MAFA) (R99)	Siemens	8.1.5.13
GP-000030	CR 05.05-A163 Alignment of spurious emissions GSM-3G(UTRA): BTS	Telia, T-Mobil	8.1.5.12
GP-000031	CR 05.05-A164 Alignment of spurious emissions GSM-3G(UTRA): MS	Telia, T-Mobil	8.1.5.12
GP-000036	A Comparison Between GERAN Packet-Switched Call Set-up Using SIP and GSM Circuit-Switched Call Set-up Using RIL3-CC, RIL3-MM, RIL3-RR, and DTAP, Rev. 0.1	Nortel Networks	8.1.5.6, 8.2.5.6
GP-000037	A Comparison Between GERAN Packet-Switched Call Release Using SIP and GSM Circuit-Switched Call Release Using RIL3-CC, RIL3-MM, RIL3-RR, and DTAP	Nortel Networks	8.1.5.6, 8.2.5.6
GP-000038	A Comparison Between GERAN Packet-Switched Supplementary Services Using SIP and GSM Circuit-Switched Services Using RIL3-CC, RIL3-MM, RIL3-RR, and DTAP	Nortel Networks	8.1.5.6, 8.2.5.6

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Tdoc	Title	Source	Agenda Item
GP-000039	Options for Implementing GERAN Packet-Switched Call Set-up, Supplementary Services, and Call Release Using SIP, Rev. 0.1	Nortel Networks	8.1.5.6, 8.2.5.6
GP-000040	PowerPoint Presentation: Options for Implementing GERAN Packet-Switched Call Set-up, Supplementary Services, and Call Release Using SIP	Nortel Networks	8.1.5.6, 8.2.5.6
GP-000041	Expected Changes to GSM 05.02, 05.08, and 05.09 for GERAN Release 2000, Rev. 0.1	Nortel Networks	8.1.5.6
GP-000042	Packet Data Traffic Models for E-Mail (With and Without Attachments) and Streaming Multimedia Applications	Nortel Networks	8.1.5.6
GP-000043	GSM/EDGE Radio Access Network (GERAN) Real-Time Fast Associated Control Channel (RTFACCH) Simulations	Nortel Networks	8.1.5.6
GP-000044	PowerPoint Presentation: GSM/EDGE Radio Access Network (GERAN) Real-Time Fast Associated Control Channel (RTFACCH) Simulations	Nortel Networks	8.1.5.6
GP-000075	TS 43.059 ver. 0.0.1 Stage 2 Description of location Services in GERAN (R00)	Nokia	7.1, 8.1.5.9, 8.2.5.9
GP-000087	CR 05.05-A165 Introduction of GSM 700 in 05.05 GSM on 700 MHz Frequency Band (R00)	Ericsson	8.1.5.10
GP-000088	CR 05.05-A173 Clarification of BTS output power capability with 8PSK (R99)	Ericsson & Nokia	8.1.5.5
GP-000090	CR 03.64-A073 DTM (R99)	Nokia	7.2, 8.1.5.1
GP-000091	CR 03.64-A074 DTM+EGPRS (R99)	Nokia	7.2, 8.1.5.1
GP-000092	CR 05.01-A028 DTM (R99)	Nokia	8.1.5.1
GP-000093	CR 05.01-A029 DTM+EGPRS (R99)	Nokia	8.1.5.1
GP-000094	CR 05.02-A162 DTM (R99)	Nokia	8.1.5.1
GP-000098	CR 05.05-A166 Definition of "small MS" (R97)	Ericsson	8.1.5.12
GP-000099	CR 05.05-A167 Definition of "small MS" (R98)	Ericsson	8.1.5.12
GP-000100	CR 05.05-A168 Definition of "small MS" (R99)	Ericsson	8.1.5.12
GP-000101	CR 05.08-A288 Clarifications on EGPRS Quality parameters (R99)	Ericsson	8.1.5.3
GP-000102	CR 05.08-A289 Editorial corrections (R99)	Ericsson	8.1.5.13
GP-000103	CR 05.08-A290 Clarifications of interference measurements for COMPACT (R99)	Ericsson	8.1.5.3

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Tdoc	Title	Source	Agenda Item
GP-000104	CR 05.08-A291 Corrections to Inter System Handover and Cell re-selection (R99)	Ericsson	8.1.5.2
GP-000105	CR 05.10-A059 Correction of assignment reaction time (R99)	Ericsson	8.1.5.1
GP-000106	CR 05.02-A163 Corrections to COMPACT (R99)	Ericsson	8.1.5.3
GP-000107	CR 05.02-A164 Removal of GPRS related text (R96)	Ericsson	8.1.5.13
GP-000108	CR 05.03-A042 Removal of GPRS related text (R96)	Ericsson	8.1.5.13
GP-000109	CR 05.05-A169 Removal of GPRS related text (R96)	Ericsson	8.1.5.13
GP-000110	CR 05.08-A292 Removal of GPRS related text (R96)	Ericsson	8.1.5.13
GP-000111	CR 05.10-A060 Removal of GPRS related text (R96)	Ericsson	8.1.5.13
GP-000116	RLC with Limited Retransmissions for Streaming Service Class	Lucent Technologies	8.1.5.6
GP-000117	Conversational and Streaming RAB Realization	Lucent Technologies	8.1.5.6
GP-000118	Stealing Bit Options for OS2 Multiplexing	Lucent Technologies	8.1.5.6
GP-000119	Potential R2001 Capacity Enhancing Features	Lucent Technologies	8.1.5.6
GP-000120	Performance Studies of Space-Time Coding for EGPRS	Lucent Technologies	8.1.5.6
GP-000126	Dual Transfer Mode: concept document	Vodafone	8.1.5.1, 8.2.5.1
GP-000154	CR 03.64-A075 DTM: alignments (R99)	Vodafone	8.1.5.1
GP-000159	Coding Scheme Comparison for GERAN	Ericsson	8.1.5.6
GP-000160	Expected changes in 05.01, 03 and 05 due to GERAN R'00	Ericsson	8.1.5.6
GP-000161	8PSK HR Voice Bearer performance	Ericsson	8.1.5.6
GP-000162	Legacy transceivers	Ericsson	8.1.5.6
GP-000167	RAB design based on ECSD	Ericsson	8.1.5.6
GP-000169	Reduction of the service outage time at Cell reselection in GPRS/EDGE/GERAN	Ericsson	8.1.5.6, 8.2.5.6
GP-000172	Proposed changes to draft LCS Stage 2 spec in GERAN (R00)	Qualcomm	8.1.5.9
GP-000194	Maximum bit rate indication for radio interface	Motorola, Nokia, Mitsubishi, BT-Cellnet	8.1.5.3
GP-000195	CR 05.02-A165 Editorial corrections related to COMPACT (R99)	Motorola	8.1.5.3
GP-000196	CR 05.02-A166 Maximum bit rate indication for radio interface (R99)	Motorola, Nokia, Mitsubishi, BT-Cellnet	8.1.5.3

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Tdoc	Title	Source	Agenda Item
GP-000216	Proposals for GERAN shared MAC mode in R00	Alcatel	8.1.5.6, 8.2.5.6
GP-000217	Proposals for GERAN MAC Layer in R01	Alcatel	8.1.5.6, 8.2.5.6
GP-000220	CR 05.10-A061 Addition of the switching requirement for the GSM to UTRAN (R99)	Nokia	8.1.5.2
GP-000221	CR 03.22-A050 GSM 700 spectrum update (R00)	Nokia	8.1.5.10
GP-000222	CR 03.30-A011 GSM 700 cell sizes and RF budgets (R00)	Nokia	8.1.5.10
GP-000223	CR 05.01-A030 Introduction of GSM 700 in 05.01 (R00)	Nokia	8.1.5.10
GP-000224	CR 05.08-A293 GSM 700 bands introduced in 05.08 (R00)	Nokia	8.1.5.10
GP-000226	GERAN cells using discontinuous broadcast	Motorola	8.1.5.6
GP-000239	Header Stripping Save Spectrum with PC Based Voice Service WITHDRAWN	AT&T Wireless Services	8.1.5.6
GP-000240	Fast Uplink Power Control for EGPRS	Siemens	8.1.5.12
GP-000241	Validation of Handset Antenna Test Methods	Telia	8.1.5.8
GP-000243	Analysis of SIP signalling over GERAN Radio Interface	Nokia	8.1.5.6, 8.2.5.6
GP-000244	Common View on Header Adaptation definitions	Nokia, Ericsson, Lucent, Nortel, Siemens	8.1.5.6
GP-000253	Realization and Channel Coding of new AMR Bearers	Nokia	8.1.5.6
GP-000254	Multiplexing on Dedicated Physical SubCHannel	Nokia	8.1.5.6
GP-000255	Streaming Radio Access Bearer	Nokia	8.1.5.6
GP-000256	Performance Analysis of Quarter Rate Channels	Nokia	8.1.5.6
GP-000257	AMR Speech Codec in 8PSK Half Rate Channel	Nokia	8.1.5.6
GP-000272	Initial requirements for legacy transceivers	Nortel Networks	8.1.5.6
GP-000273	CR 05.08-A294 BTS RF power control (R97)	Alcatel	8.1.5.1
GP-000274	CR 05.08-A295 BTS RF power control (R98)	Alcatel	8.1.5.1
GP-000275	CR 05.08-A296 BTS RF power control (R99)	Alcatel	8.1.5.1
GP-000291	CR 05.09-A009 ACS changes (R98)	Nortel Networks	8.1.5.11
GP-000292	CR 05.09-A010 ACS changes (R99)	Nortel Networks	8.1.5.11
GP-000293	CR 05.09-A011 RATSCCH Mapping (R98)	Nortel Networks	8.1.5.11

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Tdoc	Title	Source	Agenda Item
GP-000294	CR 05.09-A012 RATSCCH Mapping (R99)	Nortel Networks	8.1.5.11
GP-000295	Error Patterns and Error Insertion Device for EDGE circuits	Nortel Networks	8.1.5.11
GP-000297	LS on inter-BSC hard handover in GERAN	TSG GERAN	8.1.5.6
GP-000298	LS on GERAN requirements for Mulitmedia control signalling	TSG GERAN	8.1.5.6
GP-000321	CR 05.05-A170 Correction on CS-4 performance requirements (R97)	Alcatel	8.1.5.1
GP-000322	CR 05.05-A171 Correction on CS-4 performance requirements (R98)	Alcatel	8.1.5.1
GP-000323	CR 05.05-A172 Correction on CS-4 performance requirements (R99)	Alcatel	8.1.5.1
GP-000325	CR 05.08-A296 rev 1 BTS RF power control (R99)	Alcatel	8.1.5.1
GP-000326	CR 03.64-A073 rev 1 DTM (R99)	Nokia	8.1.5.1
GP-000327	CR 03.64-A075 rev 1 DTM: alignments (R99)	Vodafone	8.1.5.1
GP-000328	CR 05.08-A297 Correction to measurement reporting for DTM (R99)	Motorola	8.1.5.1
GP-000329	CR 05.08-A298 Corrections to BSIC decoding (R99)	Motorola	8.1.5.1
GP-000330	CR 05.08-A291 rev 1 Corrections to Inter System Handover and Cell re-selection (R99)	Ericsson	8.1.5.2
GP-000331	CR 03.22-A049 rev 1 Check selected cell deduced by SI10 information with SI3 ones (R00)	TSG GERAN WG1	8.1.5.13
GP-000332	CR 05.08-A284 rev 1 Extended measurement report (MAFA) (R96)	Siemens	8.1.5.13
GP-000333	CR 05.08-A285 rev 1 Extended measurement report (MAFA) (R97)	Siemens	8.1.5.13
GP-000334	CR 05.08-A286 rev 1 Extended measurement report (MAFA) (R98)	Siemens	8.1.5.13
GP-000335	CR 05.08-A287 rev 1 Extended measurement report (MAFA) (R99)	Siemens	8.1.5.13
GP-000336	CR 05.08-A289 rev 1 Editorial corrections (R99)	Ericsson	8.1.5.13
GP-000361	CR 05.08-A288 rev 1 Clarifications on EGPRS Quality parameters (R99)	Ericsson	8.1.5.3
GP-000362	CR 05.08-A290 rev 1 Clarifications of interference measurements for COMPACT (R99)	Ericsson	8.1.5.3
GP-000363	CR 05.05-A173 rev 1 Clarification of BTS output power capability with 8PSK (R99)	Ericsson & Nokia	8.1.5.5

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Tdoc	Title	Source	Agenda Item
GP-000364	CR 05.08-A298 Corrections to BSIC decoding (R99)	Motorola	8.1.5.1
GP-000370	CR 05.05-A165 rev 1 Introduction of GSM 700 in 05.05 GSM on 700 MHz Frequency Band (R00)	Ericsson	8.1.5.10
GP-000371	CR 05.05-A166 rev 1 Definition of "small MS" (R97)	Ericsson	8.1.5.12
GP-000372	CR 05.05-A167 rev 1 Definition of "small MS" (R98)	Ericsson	8.1.5.12
GP-000373	CR 05.05-A168 rev 1 Definition of "small MS" (R99)	Ericsson	8.1.5.12
GP-000374	LS on inter-BSC hard handover in GERAN	TSG GERAN	8.1.5.6
GP-000375	Work item description for wide band AMR support in GERAN	Bell South	8.1.5.11
GP-000376	Proposed Change to Stage 2 Description generic Conversational and Streaming RAB Realisation	Drafting group	8.1.5.6
GP-000401	Detailed planning for GERAN	Drafting group	8.1.5.6, 8.2.5.6
GP-000402	SACCH design for QR Channel	Nortel Networks	8.1.5.6
GP-000403	Proposed Work Item: Handover and Cell Selection/Reselection to UTRA low chip rate TDD	Siemens	8.1.5.2
GP-000404	Proposal for Header Adaptation Definitions	Drafting group	8.1.5.6
GP-000426	CR 05.01-A031 Minimum Mobile Station Class and Channelisation Capabilities	Motorola	8.1.5.1
GP-000427	GSM 400 system; Implementation guidelines (R97)	Nokia	8.1.5.10
GP-000428	GSM 400 system; Implementation guidelines (R98)	Nokia	8.1.5.10
GP-000460	Draft Liaison Statement on RATSCCH	TSG GERAN WG1	8.1.5.11
GP-000461	GSM 09.9x Release Independent Frequency Bands; Implementation guidelines (R97), Version 1.0.0	Nokia	8.1.5.10
GP-000462	GSM 09.9x Release Independent Frequency Bands; Implementation guidelines (R98), Version 1.0.0	Nokia	8.1.5.10
GP-000463	Draft Liaison Statement on RATSCCH	TSG GERAN	8.1.5.11

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Annex C: List of attendees

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Annex D: Output from GERAN WG1#1 meeting

The output documents from the meeting GERAN#1 are summarized in the following:

GPRS, DTM

TD GP-000105 **CR 05.10-A059 Correction of assignment reaction time (R99)**

TD GP-000091 **CR 03.64-A074 DTM+EGPRS (R99)** was conditionally agreed, under the assumption that the technical details are agreed as well.

TD GP-000092 **CR 05.01-A028 DTM (R99)**

TD GP-000093 **CR 05.01-A029 DTM+EGPRS (R99)**

TD GP-000094 **CR 05.02-A162 DTM (R99)**

TD GP-000321 **CR 05.05-A170 Correction on CS-4 performance requirement (R97)**

TD GP-000322 **CR 05.05-A171 Correction on CS-4 performance requirement (R98)**

TD GP-000323 **CR 05.05-A172 Correction on CS-4 performance requirement (R99)**

TD GP-000328 **CR 05.08-A297Class A Dual Transfer Mode (DTM): correction to reporting procedures (R99)**

TD GP-000326 **CR 03.64-A073 rev 1 DTM (R99)**

TD GP-000325 **CR 05.08-A296 rev 1 BTS RF power control (R99)**

TD GP-000327 **CR 03.64-A075 rev 1 DTM: alignments (R99)**

TD GP-000364 **CR 05.08-A298 rev 1 Requirements for search, verification and BSIC decoding of adjacent cells while in packet transfer mode (R99)**

TD GP-000426 **CR 05.01-A031 Minimum Mobile Station Class and Channelisation Capabilities**

GSM-3G handovers and multimode operation

TD GP-000220 **CR 05.10-A061 Addition of the switching requirement for the GSM to UTRAN (R99)**

TD GP-000330 **CR 05.08-A291 rev 1 Corrections to Inter System Handover and Cell re-selection (R99)**

EGPRS (R99), COMPACT (R99)

TD GP-000361 **CR 05.08-A288 rev 1 Clarifications on EGPRS Quality parameters (R99)**

TD GP-000362 **CR 05.08-A290 rev 1 Clarifications of interference measurements for COMPACT (R99)**

TD GP-000106 **CR 05.02-A163 Corrections to COMPACT (R99)**

TD GP-000195 **CR 05.02-A165 Editorial corrections related to COMPACT (R99)**

EDGE

TD GP-000013 **CR 05.05-A162 Pico BTS Reference interference level clarification (R99)**

TD GP-000363 **CR 05.05-A173 rev 1 Clarification of BTS output power capability with 8-PSK (R99)**

ASCI

TD GP-000331 **CR 03.22-A006 rev 1 Check selected cell deduced by SI10 information with SI3 ones (R00)**

TD GP-000007 **CR 05.02-A161 NCH clarification (R00)**

MAFA

TD GP-000332 **CR 05.08-A284 rev 1 Extended measurement report (MAFA) (R96)**

TD GP-000333 **CR 05.08-A285 rev 1 Extended measurement report (MAFA) (R97)**

TD GP-000334 **CR 05.08-A286 rev 1Extended measurement report (MAFA) (R98)**

TD GP-000335 **CR 05.08-A287 rev 1 Extended measurement report (MAFA) (R99)**

Support of Frequency bands

TD GP-000370 **CR 05.05-A165 Introduction of GSM 700 in 05.05 GSM on 700 MHz Frequency Band (R00)**

TD GP-000221 **CR 03.22-A050 GSM 700 spectrum update (R00)**

TD GP-000222 **CR 03.30-A011 GSM 700 cell sizes and RF budgets (R00)**

TD GP-000223 **CR 05.01-A030 Introduction of GSM 700 in 05.01 (R00)**

TD GP-000224 **CR 05.08-A293 GSM 700 bands introduced in 05.08 (R00)**

TEI Corrections

TD GP-000336 **CR 05.08-A289 rev 1 Editorial corrections (R99)**

TD GP-000107 **CR 05.02-A164 Removal of GPRS related text (R96)**

TD GP-000108 **CR 05.03-A042 Removal of GPRS related text (R96)**

TD GP-000109 **CR 05.05-A169 Removal of GPRS related text (R96)**

TD GP-000110 **CR 05.08-A292 Removal of GPRS related text (R96)**

TD GP-000111 **CR 05.10-A060 Removal of GPRS related text (R96)**

TD GP-000030 **CR 05.05-A163 Alignment of spurious emissions GSM-3G(UTRA): BTS**

TD GP-000031 **CR 05.05-A164 Alignment of spurious emissions GSM-3G(UTRA): MS**

TD GP-000371 **CR 05.05-A166 rev 1 Definition of "small MS" (R97)**

TD GP-000372 **CR 05.05-A167 rev 1 Definition of "small MS" (R98)**

TD GP-000373 **CR 05.05-A168 rev 1 Definition of "small MS" (R99)**

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Annex E: Liaison Statements

Tdoc no.	Title	Intended for	Copy to
TD GP-000298	**LS on GERAN requirements for Multimedia control signalling**	**TSG-SA WG2**	**TSG-CN WG1**
TD GP-000374	**LS on inter-BSC hard handover in GERAN for the packet switched domain**	**TSG-SA WG2**	**TSG-RAN WG3, TSG-RAN WG2**
TD GP-000463	**LS on the Support of the RATSCCH**	**TSG-SA WG4**	

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ANNEX G - Report from WG2 at GERAN#1

3GPP TSG GERAN WG2 Tdoc GP-000468

Meeting no 1
Seattle, Washington, USA

28/8-1/9-2000

Draft Report for WG2 during 3GPP TSG GERAN in Seattle, Washington

The meeting was chaired by Jean-François Minet from Nortel Networks.

Secretary for the meeting was Gert Byrgiel Thomasen, ETSI MCC

8.2.1 Opening of the meeting

The Chairman opened the meeting at 08:45 on Tuesday 26 August 2000.

8.2.2 Approval of the Agenda

The agenda in Tdoc TSGG#1(00)0003 was approved.

8.2.3 Review of GERAN WG2 work area

8.2.4 Letters / Reports from other groups

8.2.4.1 TSG-CN, TSG-RAN, TSG-SA, TSG-T and PCG/OP

GP-000227 :: Answer to Proposal of exchange of the terms “in GSM” and “in UMTS”

Document from TSG CN WG1

Jean-François Minet noted that the capacity left on System Information is already low, and any new addition of infomration leads to increase acquisition time. Furthermore there seemed to be potential confusion between mode and interface terminology. Andrew Howell noted on the last point that it looks quite like service based selection, which has been rejected many times in the past and is still undesirable. The reply was drafted by Jean-François Minet immediately as GP-000414.

Noted

8.2.4.2 From Partners and their bodies

8.2.4.3 Others

8.2.5 Technical work

8.2.5.1 Packet radio (GPRS) (Including Corrections for R97, Corrections for R98/R99, GPRS simple Class A…)

GP-000397 :: Concept paper for Leaky Bucket Synchronization in BSSGP

Document from Motorola.

Presented only for information; Noted

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GP-000091 :: CR 03.64-A074 DTM+EGPRS (R99)

Presented by Arto Leppisaari from Nokia

Already dealt with by the Plenary. Confirmed here.

Agreed

GP-000154 :: CR 03.64-A075 DTM alignments

Presented by Claude Arzelier from Vodafone

No comments.

Agreed

GP-000025 :: CR 04.08-A736 Handling of Power-Control-Parameter alpha (R97)

Presented by Franz Goldhofer from Siemens

Chairman questioned the need for this correction in R97. Claude Arzelier found it correct to specify the behaviour as in the CR.

Agreed

GP-000026 :: CR 04.08-A738 Handling of Power-Control-Parameter alpha (R98)

Presented by Franz Goldhofer from Siemens

No comments further to those for GP-00025. The category was noted to be A, not F.

Agreed

GP-000027 :: CR 04.18-A125 Handling of Power-Control-Parameter alpha (R99)

Presented by Franz Goldhofer from Siemens

No comments further to those for GP-00025. The category was noted to be A, not F.

Agreed

GP-000121 :: CR 04.18-A127 DTM: Removal of polling from DTM assignment (R99)

Presented by Torbjörn Olsson from Ericsson

No comments.

Agreed

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GP-000123 :: CR 04.18-A128 DTM: Correction of timers T3148 and T3107 (R99)

Presented by Torbjörn Olsson from Ericsson

Ute Esseling noted an editorial in 3.4.22.3.1 (uplink should be downlink). Revision was needed which should be automatically agreed.

Revised in GP-000342

GP-000342 :: CR 04.18-A128 rev 1 DTM: Correction of timers T3148 and T3107 (R99)

Presented by Torbjörn Olsson from Ericsson

Revision of GP-000123.

Agreed

GP-000127 :: CR 04.18-A129 DTM: tunnelling of GPRS signalling on the main DCCH (R99)

Presented by Claude Arzelier from Vodafone

No comments.

Agreed

GP-000132 :: CR 04.18-A130 DTM: provision of GPRS information for correct DTM behaviour (R99)

Presented by Claude Arzelier from Vodafone

Jean-François Minet: handover is not in R99, therefore “dual handover” in the reason for change can not be correct and might at best be misleading. Related CRs are GP-000179, GP-000180 and GP-000181. Torbjörn: there is a wrong reference in table 9.12g, last row. Bruno Landais: the network tx of DTM info could be optional, which might require this CR to be changed.

Revision in GP-000314

GP-000314 :: CR 04.18-A130 rev 1 DTM: provision of GPRS information for correct DTM behaviour (R99)

Presented by Claude Arzelier from Vodafone

Revision of GP-000132.

Agreed

GP-000137 :: CR 04.18-A131 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)

Presented by Claude Arzelier from Vodafone

Discussion on suspension of GPRS. Sven Ekemark noted that except from rubberband mobiles, there exist only DTM to provide class A. If a MS in dedicated mode in a DTM capable cell handover to a non-DTM cell, then GPRS needs to be

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suspended. Two corrections about clauses a and b in 3.4.25.3. May vs Shall discussion on 3.4.25.2. Bruno Landais noted it would be better to use the PSI13. Sven Ekemark informed that if so, an extra delay of 1-2 seconds will result.

Revised in GP-000317

GP-000317 :: CR 04.18-A131 rev 1 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)

Presented by Claude Arzelier from Vodafone

Revision of GP-000137. No comments.

Agreed

GP-000142 :: CR 04.18-A132 DTM: alignment of the handover procedure (R99)

Presented by Claude Arzelier from Vodafone

No comments.

Agreed

GP-000144 :: CR 04.18-A133 DTM: clarification of Radio Link Failure and RR connection abortion while in DTM (R99)

Presented by Claude Arzelier from Vodafone

No comments.

Agreed

GP-000146 :: CR 04.18-A134 DTM: removal of the Main DCCH Assignment message (R99)

Presented by Claude Arzelier from Vodafone

Jean-François Minet questioned if “GPRS SMS” is really user data. Bruno Landais questioned the text in 3.4.22.1.1.1. PErmision to access the network if the MS knows that DTM is supported, then there is no need to wait for SI6. Revision needed

Revision in GP-000337

GP-000337 :: CR 04.18-A134 rev 1 DTM: removal of the Main DCCH Assignment message (R99)

Presented by Claude Arzelier from Vodafone

Revision of GP-000146, automatically agreed.

Agreed

GP-000150 :: CR 04.18-A135 DTM: definition (R99)

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Presented by Claude Arzelier from Vodafone

No comments.

Agreed

GP-000179 :: CR 04.18-A137 DTM: GPRS information for DTM operation - TBF re-establishment (R99)

Presented by Sven Ekemark from Ericsson

Bruno Landais asked on the reason for change why a new PSI14 message is created instead of reusing PSI13. Sven Ekemark: PSI13 implies the the MS has received the PSI1 before, which might not be the case. The CR is linked to GP-000181.

Agreed.

GP-000185 :: CR 04.18-A138 Correction of Table 10.5.60/GSM 04.18 (R99)

Presented by Sven Ekemark from Ericsson

The CR on the same subject in GP-000259 was found to cover the same subject, but included further corrections, why it was preferred.

Withdrawn

GP-000095 :: CR 04.18-A140 DTM+EGPRS (R99)

Presented by Arto Leppisaari from Nokia

No comments.

Agreed

GP-000259 :: CR 04.18-A150 Editorial correction on RR Packet Uplink/Downlink Assigment (R99)

Presented by Arto Leppisaari from Nokia

Franz Goldhofer spotted that there was a bracket too much in downlink assignment.

Revision in GP-000306

GP-000306 :: CR 04.18-A150 rev 1 Editorial correction on RR Packet Uplink/Downlink Assigment (R99)

Presented by Arto Leppisaari from Nokia

Revision of GP-000259. No comments.

Agreed

GP-000056 :: CR 04.60-A845 rev 3 DTM: Exclusive allocation and other DTM alignments

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Presented by Sven Ekemark from Ericsson

This CR is a huge collection of basic changes required for introduction of DTM. The document have been subject to detailed study and revision at the meetings in Biarritz, Tampere and Newbury, why it was not found appropriate to present each change in details. On request by Bruno Landais, Sven Ekemark explained the changes in 8.1.0. Bruno Landais wondered if it is stated how to switch between exclusive access to shared access in MAC mode. Emmanuel: on 5.5.1.5: why non DRX period when leaving DTM and entering dedicated mode. Sven Ekemark: it is in order to have a consistent behaviour when RR connections are released after TBF releases. Some discussion on a fundamental problem on exclusive allocation. Sven Ekemark and Jean-François Minet: The changes all are some form of compromise that makes DTM work but are certainly more complex than elegant. Emmanuel: the rimer might be running but the MS will not listen to paging while in dedicated mode. Jean-François Minet in his role as chairman noted that offline discussions were needed.

Revised as GP-000341

GP-000341 :: CR 04.60-A845 rev 4 DTM: Exclusive allocation and other DTM alignments

Presented by Sven Ekemark from Ericsson

Revision of GP-000056.

Agreed

GP-000023 :: CR 04.60-A872 Correction of RLC/MAC message (R97) (Wrong incorporation of CR A731)

Presented by Franz Goldhofer from Siemens

No comments.

Agreed

GP-000024 :: CR 04.60-A873 Correction of RLC/MAC message (R98) (Wrong incorporation of CR A732)

Presented by Franz Goldhofer from Siemens

No comments

Agreed

GP-000046 :: CR 04.60-A874 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R97)

Presented by Jean-François Minet from Nortel Networks

No comments

Agreed

GP-000047 :: CR 04.60-A875 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R98)

Presented by Jean-François Minet from Nortel Networks

No comments

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Agreed

GP-000048 :: CR 04.60-A876 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R99)

Presented by Jean-François Minet from Nortel Networks

No comments

Agreed

GP-000131 :: CR 04.60-A877 DTM: cell support indication (R99)

Presented by Claude Arzelier from Vodafone

There is no additional space in PSI1, which includes GPRS Cell Options if PSI1 is sent with optional RLC/MAC header, which is the case in PACCH. Sven Ekemark noted that segmentation is not allowed. Perhaps additional information is needed that PSI1 shall not be sent with the additional octets. It was noted that the problem may not be serious in practice, where the network is not required to transmit PR field in each block. Sven Ekemark: if PRACH control parameters are excluded from PSI1 when sent on PACCH, room could be found. New CR on this will be drafted.

Agreed

GP-000157 :: CR 04.60-A878 Editorial correction on cell reselection (R99)

Presented by Bruno Landis from Alcatel

There was a bit of discussion if this is really only a clarification, or if it was a technical change. The conclusion on the meeting was that this is truely an editorial clarification of requirements already existing elsewhere in 04.60. On this background the CR was found acceptable.

Agreed

GP-000181 :: CR 04.60-A880 DTM: GPRS information for DTM operation - TBF re-establishment (R99)

Presented by Sven Ekemark from Ericsson

Bruno Landais: Should not the same requirement on Cell Allocation and Mobile Allocation (no hopoing or direct encoding) be stated on PSI13 for SI13? Some off-line checking is needed which may result in a revised CR. After some discussion and drafting and withdrawal of revision in GP-000320, it was decided that this CR in GP-000181 was preferrable.

Agreed.

GP-000320 :: CR 04.60-A880 rev 1 DTM: GPRS information for DTM operation - TBF re-establishment (R99)

Presented by Sven Ekemark from Ericsson

Revision of GP-000181. The document was withdrawn by Ericsson and the original CR in GP-000181 should be agreed instead.

Withdrawn

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GP-000182 :: CR 04.60-A881 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R97)

Presented by Sven Ekemark from Ericsson

Emmanuel Seurre asked for clarification on the change. Sven Ekemark explained the coding, and noted that it could have been coded differently (with brackets around the last three options). Jyoti Black indicated preference for the bracket method. After a bit of study around the board, it was noted that further changes were necessary and it was decided that a revision was needed.

Revision in GP-000303

GP-000303 :: CR 04.60-A881 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R97)

Presented by Sven Ekemark from Ericsson

Revision of GP-000182. No comments.

Agreed

GP-000183 :: CR 04.60-A882 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R98)

Presented by Sven Ekemark from Ericsson

Discussion as for GP-000182.

Revision in GP-000304

GP-000304 :: CR 04.60-A882 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R98)

Presented by Sven Ekemark from Ericsson

Revision of GP-000183. No comments.

Agreed

GP-000184 :: CR 04.60-A883 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R99)

Presented by Sven Ekemark from Ericsson

Discussion as for GP-000182.

Revision in GP-000305

GP-000305 :: CR 04.60-A883 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R99)

Presented by Sven Ekemark from Ericsson

Revision of GP-000184. No comments.

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Agreed

GP-000187 :: CR 04.60-A884 Correction of Packet PDCH Release procedure (TIMESLOT_ALLOCATION) (R99)

Presented by Sven Ekemark from Ericsson

No comments.

Agreed

GP-000188 :: CR 04.60-A885 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R97)

Presented by Sven Ekemark from Ericsson

The CR is still in drafting, and the author invited comments. Jean-François Minet noted that changes to R97 need exceptional good justification, and questioned that this was the case here. Leif Friman found that the proposed change in R97 is not needed for 3G handover. The discared part only concerns R98 and later features. Leif Frimans last comment was that it would be best if the procedures are specified purely i CSN.1. Sven Ekemark was concerned that the length of the discarded part is not known to the MS, which might lead to errors. Discussion led to. Leif Friman, Franz Goldhofer, Claude Arzelier all had proposals, and Jean-François Minet decided a drafting session during the meeting was needed.

Revised as GP-000410

GP-000407 :: CR 04.60-A885 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R97)

Presented by Sven Ekemark from Ericsson

Revision of GP-000188. No comments.

Agreed

GP-000189 :: CR 04.60-A886 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R98)

Presented by Sven Ekemark from Ericsson

See discussion under GP-000188.

Revised as GP-000408

GP-000408 :: CR 04.60-A886 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R98)

Presented by Sven Ekemark from Ericsson

Revision of GP-000189.

Agreed

GP-000190 :: CR 04.60-A887 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R99)

Presented by Sven Ekemark from Ericsson

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See discussion under GP-000188.

Revised as GP-000409

GP-000409 :: CR 04.60-A887 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R99)

Presented by Sven Ekemark from Ericsson

Revision of GP-000190.

Revised as GP-000467

GP-000215 :: CR 04.60-A890 Miscellaneous corrections on packet access and message coding (R99)

Presented by Andrew Howell from Motorola

Ute Esseling noted that the EMR IE terminology in table 59 needs to be made consistent all over. Sven Ekemark had a few other remarks. Claude Arzelier noted a possible conflict with 3G service selection in GP-000208 that needs to be checked.

Revision in GP-000308

GP-000308 :: CR 04.60-A890 rev 1 Miscellaneous corrections on packet access and message coding (R99)

Presented by Pascal Fouilland from Motorola

Revision of GP-000215.

Sven Ekemark was concerned that one of the brackets in the CSN.1 coding had gone wrong.

Revision in GP-000466

GP-000261 :: CR 04.60-A896 Alignment of abnormal cases (R99)

Presented by Arto Leppisaari from Nokia

The principle of the desired change was generally acceptable, but Jean-François Minet noted that the sentence in added in 8.1.1.3.2.5 was somewhat misleading and should be re-phrased. Arto Leppisaari accepted the wording should be changed, and it was decided to split the bullit into two to make it clear. Jean-François Minet further noted that this was relevant for R97 and R98. Arto Leppisaari thought that it was not necessary for R97. Sven Ekemark noted that the DTM abnormal cases are proposed renamed by DTM CRs, which should be checked later at the meeting.

Revision in GP-000311

GP-000311 :: CR 04.60-A896 rev 1 Alignment of abnormal cases (R99)

Presented by Arto Leppisaari from Nokia

Revision of GP-000261. No comments.

Agreed

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GP-000301 :: CR 04.60-A897 Delaying the final Packet Uplink Ack/Nack (R99)

Document from Nokia

Open

GP-000302 :: CR 04.60-A898 Polling GPRS MS for uplink data after downlink TBF release (R99)

Document from Nokia

Open

GP-000310 :: CR 04.60-A899 Correction of Packet Flow Context Procedures (R99)

Has been revised after presentation : extending also to the case of uplink reallocation for fixed allocation

Revision in GP-000419.

GP-000419 :: CR 04.60-A899 rev 1 Correction of Packet Flow Context Procedures (R99)

Document from Motorola***For plenary***

GP-000410 :: CR 04.60-A900 Clarification of assembling convention for RLC/MAC control blocks

Presented by Sven Ekemark from Ericsson

Presented for information. Jean-François Minet asked for the document to be posted on the e-mail reflector in order to allow all manufactuers to check it against their implementation before decision is made. There was some light discussion on the possibility to fix mobile problems on the network site. This document should be presented to the plenary for information too.

Deals with a big interopearbility problem of RACH on 11 bits. To be checked at home against current implemnations; the most crtical part are the MSs; the network is able to support only one bit ordering.

GP-000140 :: CR 08.08-A212 DTM: correction to DTM information in Old BSS to new BSS Information IE (R99)

Presented by Claude Arzelier from Vodafone

Jean-François Minet questioned the bit for EGPRS in this CR. Bruno Landais: why not inform the ms capabilities to the nwk in cell handover? Jean-François Minet: interesting question, but discussion resulted in no changes required.

Agreed

GP-000148 :: CR 08.08-A213 DTM: deletion of reference to PDSS2 (R99)

Presented by Claude Arzelier from Vodafone

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Strange font in CR solved by using different typeface. No comments to content.

Agreed

GP-000152 :: CR 08.08-A214 DTM: clarification of the use of the COMMOM ID message (R99)

Presented by Claude Arzelier from Vodafone

Kati Vainola: The classmark 3 information is not always available. Further, a condition is need that the MS supports DTM to send the COMMON ID message. Revision definitely needed.

Revision in GP-000339

GP-000339 :: CR 08.08-A214 rev 1 DTM: clarification of the use of the COMMOM ID message (R99)

Presented by Claude Arzelier from Vodafone

Revision of GP-000152.

Bruno Landais: would like to be ensured that there is no problem with error handling in 08.08.

Revision in GP-000422

GP-000422 :: CR 08.08-A214 rev 2 DTM: clarification of the use of the COMMON ID message (R99)

Document from Vodafone

Revision of GP-000339.

OpenRevision made in order to align with concept document making the sending of COMMON-ID only to BSS supporting DTM, in order to avoid peramanent error messages within the BSS.

GP-000129 :: CR 08.18-A104 DTM: tunnelling of GPRS signalling on the main DCCH (R99)

Presented by Claude Arzelier from Vodafone

No comments.

Agreed

GP-000135 :: CR 08.18-A105 DTM: download of the IMSI from the SGSN to the BSC

Presented by Claude Arzelier from Vodafone

Jyoti: a conditional only makes sence if linked to something that can be verified. It should be optional. Other CR is needed for that.

Agreed

GP-000139 :: CR 08.18-A106 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities

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Presented by Claude Arzelier from Vodafone

No comments.

Agreed

GP-000309 :: CR 08.18-A107 Gb Interface: BSS Packet Flow Context Procedures (R99)

Document from Motorola

Agreed

GP-000398 :: CR 08.18-A108 Leaky bucket synchronization in BSSGP

Presented by Jyoti Black from Motorola

The document was for information only. Sven Ekemark had a bit concern on bitmap negotiation. Jyoti Black would make a revised version availble, still just for information, to for basis for e-mail discussion before the next meeting.

Secretary's note: Please note that this is CR 08.18-A108, not A107!

Revision in GP-000420.

GP-000420 :: CR 08.18-A108 rev 1 Leaky bucket synchronization in BSSGP

Presented by Jyoti Black from Motorola

Revision of GP-000398. No comments.

Secretary's note: Please note that this is CR 08.18-A108 rev 1, not A107 rev 1!

Noted

GP-000134 :: CR 23.060-xxx DTM: download of the IMSI from the SGSN to the BSC (R99)

Presented by Claude Arzelier from Vodafone

For information only at GERAN. It will be input to SA as a liaison from GERAN. Bruno Landais: second added sentence should be changed to "BSS supporting DTM shall store...." etc. Revision needed.

Revision in GP-000316

GP-000316 :: CR 23.060-xxx DTM: download of the IMSI from the SGSN to the BSC (R99)

Presented by Claude Arzelier from Vodafone

Revision of GP-000134. No comments. It was decided this draft CR was ready to be sent to SA2. Draft LS is in GP-000355.

Noted

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GP-000136 :: CR 23.060-xxx DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)

Presented by Claude Arzelier from Vodafone

Bruno Landais: the wording is not acceptable. Packet transfer mode need to be removed. Wording used in 16.2.1 needs to be revised. Jean-François Minet noted that if so, also the CR on 03.64 need to be taken a look at.

Revised in GP-000319

GP-000319 :: CR 23.060-xxx DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)

Presented by Claude Arzelier from Vodafone

Revision of GP-000136. No comments. It was decided this draft CR was ready to be sent to SA2. Draft LS is in GP-000355.

Noted

GP-000130 :: CR 23.060-xxx DTM: simultaneous LAU and RAU procedures on an SDCCH (R99)

Presented by Claude Arzelier from Vodafone

For information only at GERAN. Bruno Landais noted that this is related to an open issue (GP-000126, IMSI issue). It was proposed that the procedure shall be for DTM supporting MSs only.

Open

GP-000097 :: CR 24.008-xxx DTM+EGPRS (R99)

Presented by Arto Leppisaari from Nokia

Only for information at GERAN. CN1 is responsible for 24.008. Jean-François Minet noted on the DTM-EGPRS multi slot subclass that DTM and GPRS support are not independent fields. Jean-François Minet was concerned of the effect of a classmark 3 message on a R97 MS. Agreed in principle at WG2, but need to check for backwards compatibility with R97 nwk, R98 nwk and inclusion of support of 400 MHz band before forwarding the CR to CN1.

Andrew Howell: it seems that R98 compatibility is OK as MS position capability has been added. Classmark 3 seems OK, outstanding issues with PCS1900 support, partially included in R98 and R99. LS to CN1 drafted as GP-000344.

Noted.

GP-000028 :: CR 44.018-003 Handling of Power-Control-Parameter alpha (R00)

Presented by Franz Goldhofer from Siemens

No comments further to those for GP-00025. The category was noted to be A, not F.

Agreed

GP-000122 :: CR 44.018-004 DTM: Removal of polling from DTM assignment (R00)

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Presented by Torbjörn Olsson from Ericsson

Discussion as for GP-000121.

Agreed

GP-000124 :: CR 44.018-005 DTM: Correction of timers T3148 and T3107 (R00)

Presented by Torbjörn Olsson from Ericsson

Discussion as for GP-000123.

Revised in GP-000343

GP-000343 :: CR 44.018-005 rev 1 DTM: Correction of timers T3148 and T3107 (R00)

Presented by Torbjörn Olsson from Ericsson

Revision of GP-000124

Agreed

GP-000128 :: CR 44.018-006 DTM: tunnelling of GPRS signalling on the main DCCH (R00)

Presented by Claude Arzelier from Vodafone

No comments.

Agreed

GP-000133 :: CR 44.018-007 DTM: provision of GPRS information for correct DTM behaviour (R00)

Presented by from Vodafone

Discussion as for GP-000132.

Revision in GP-000315 which is then automatically agreed.

GP-000315 :: CR 44.018-007 rev 1 DTM: provision of GPRS information for correct DTM behaviour (R00)

Presented by from Vodafone

Revision of GP-000133.

Agreed

GP-000138 :: CR 44.018-008 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R00)

Presented by Claude Arzelier from Vodafone

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Discussion as for GP-000137.

Revised in GP-000318

GP-000318 :: CR 44.018-008 rev 1 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R00)

Presented by Claude Arzelier from Vodafone

Revision of GP-000138. Companion CR to GP-000317. No comments.

Agreed

GP-000143 :: CR 44.018-009 DTM: alignment of the handover procedure (R00)

Presented by Claude Arzelier from Vodafone

Discussion as for GP-000142.

Agreed

GP-000145 :: CR 44.018-010 DTM: clarification of Radio Link Failure and RR connection abortion while in DTM (R00)

Presented by Claude Arzelier from Vodafone

Discussion as for GP-000144.

Agreed

GP-000147 :: CR 44.018-011 DTM: removal of the Main DCCH Assignment message (R00)

Presented by Claude Arzelier from Vodafone

Discussion as for GP-000146.

Revision in GP-000338

GP-000338 :: CR 44.018-011 rev 1 DTM: removal of the Main DCCH Assignment message (R00)

Presented by Claude Arzelier from Vodafone

Revision of GP-000147, automatically agreed.

Agreed

GP-000151 :: CR 44.018-012 DTM: definition (R00)

Presented by Claude Arzelier from Vodafone

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Discussion as for GP-000150.

Agreed

GP-000180 :: CR 44.018-014 DTM: GPRS information for DTM operation - TBF re-establishment (R00)

Presented by Sven Ekemark from Ericsson

Discussion as for GP-000179.

Agreed.

GP-000186 :: CR 44.018-015 Correction of Table 10.5.60/GSM 44.018 (R00)

Presented by Sven Ekemark from Ericsson

The CR on the same subject in GP-000260 was found to cover the same subject, but included further corrections, why it was preferred.

Withdrawn

GP-000096 :: CR 44.018-017 DTM+EGPRS (R00)

Presented by Arto Leppisaari from Nokia

No comments.

Agreed

GP-000260 :: CR 44.018-027 Editorial correction on RR Packet Uplink/Downlink Assigment (R00)

Presented by Arto Leppisaari from Nokia

Discussion as for GP-000259

Revision in GP-000307

GP-000307 :: CR 44.018-027 rev 1 Editorial correction on RR Packet Uplink/Downlink Assigment (R00)

Presented by Arto Leppisaari from Nokia

Revision of GP-000260. No comments.

Agreed

GP-000141 :: CR 48.008-004 DTM: correction to DTM information in Old BSS to new BSS Information IE (R00)

Presented by Claude Arzelier from Vodafone

Discussion as for GP-000140.

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Agreed

GP-000149 :: CR 48.008-005 DTM: deletion of reference to PDSS2 (R00)

Presented by Claude Arzelier from Vodafone

Discussion as for GP-000148.

Agreed

GP-000153 :: CR 48.008-006 DTM: clarification of the use of the COMMON ID message (R00)

Presented by Claude Arzelier from Vodafone

Discussion as for GP-000152.

Revision in GP-000340

GP-000340 :: CR 48.008-006 rev 1 DTM: clarification of the use of the COMMON ID message (R00)

Presented by Claude Arzelier from Vodafone

Revision of GP-000153. Companion CR to GP-000339. Discussion as for GP-000152.

Revision in GP-000423

GP-000443 :: CR 48.008-006 rev 2 DTM: clarification of the use of the COMMON ID message (R00)

Document from Vodafone

Revision of GP-000340.

Open

GP-000126 :: Dual Transfer Mode: concept document

Presented by Claude Arzelier from Vodafone

Jean-François Minet asked for the document to be presented mainly for information, as full discussion had been taken during previous meetings and during the ad-hoc meeting in Newbury in August. However, Bruno Landais had a few comments: In 5.5.2, it is stated only that a E-GPRS ms shall support GMSK, not 8-PSK as a normal EDGE ms. Discussion reveiled that it is not wrong, but should could be clarified that the 8-PSK capabilities are the same in DTM. It was further decided to re-phrase 5.7 in order to clarify where the DTM support is indicated. In 7.1.1.1, what would happen if a Downlink PDU arrives before the DTM info? In 7.1.1.2, is it possible to poll a ms in dedicated mode? It was found difficult to use here. In 7.1.1.3.1, Bruno Landais noted that it should be added that what to do if an IMSI is not available. It was not possible to solve this immediately. In 7.5.2.1, Bruno Landais noted that it is not needed to provide the TLLI.

Kati Vainola noted on figure 12 : IMSI may not be available at the MSC, the use of Common ID shall be restricted to the BS supporting it, and Classmark 3 shall be embedded in a classmark update.

Revision in GP-000312

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GP-000312 :: Dual Transfer Mode: concept document

Presented by Claude Arzelier from Vodafone

Revision of GP-000126. Discussion reveiled let to revision of documents GP-000339 and GP-000340 for consistency.

Agreed

GP-000062 :: LS on the introduction of 3G MS capabilities in MS classmark 3

Document from TSG-CN WG1

GP-000344 :: LS to CN1 on CR 24.000-xxx DTM+EGPRS (GP-000097)

Document from Nokia

Tdoc 0344 had been allocated in order to draft a LS to CN1 indicating a mistake with PCS1900 support within Classmark3; after direct discussion between Arto and Hannu CN1 chair, the LS is not needed, CN1 will fix it during their next meeting.

Then Tdoc 0344 is withdrawn without presentation.

GP-000355 :: LS to SA2 on 23.060 CRs for Dual Transfer Mode

GERAN WG 2 output.

No comments. The LS was found ready to be sent to SA2.

Agreed

GP-000396 :: Proposed Liaison Statement on the introduction of EGPRS for DTM

Presented by Arto Leppisaari from Nokia

No comments.

Agreed

GP-000300 :: TBF Release Procedure Improvements (R99)

Presented by Arto Leppisaari from Nokia

Bruno Landais felt that the CRs are not needed, as the improvements are already possible, subject to NWK implementation. Sven Ekemark suggested there could be other ways to handle the problems indicated. Bruno Landais noted that Alcatel will oppose any changes to allow behaviour already possible. Arto Leppisaari: the CRs are not introducing mandatory behaviour.

Open

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8.2.5.2 GSM-3G handovers and multimode operation

GP-000266 :: CR 04.18-A141 Correction on Measurement Info Message (R99)

Presented by Jean-François Minet from Nortel Networks

Claude Arzelier: looks good, nicely aligned with Vodafone CRs. Removal of coding was checked, found correct.

Agreed

GP-000204 :: CR 04.18-A142 SI2ter bit map correction (R99)

Presented by Claude Arzelier from Vodafone

Editorial change required for precision of bit set to 1.

Revision in GP-000385

GP-000385 :: CR 04.18-A142 rev 1 SI2ter bit map correction (R99)

Presented by Claude Arzelier from Vodafone

Revision of GP-000204.

Agreed

GP-000206 :: CR 04.18-A143 SI2quater updates to allow GPRS->UMTS Cell-Reselection (R99)

Presented by Claude Arzelier from Vodafone

Volkmann Hammer expressed concern about the number of neigbours due to the merging of two types of Info messges SI2ter and SI2quater. Claude Arzelier: SI2 quater defines the 3G neighbour list used for reporting. At beginning SI2ter shall be used, then SI2quater is added. Both are used in the MS. Max numbers of cells to report is 96. Andrew Howell proposed to add a requirement stating the behaviour of MS, specially the two list combination so that this requirement is not “hidden” in the information elements. This will be solved by another CR at a future meeting.

Agreed

GP-000209 :: CR 04.18-A144 Detailed coding modifications for the pre-configurations (R99)

Revised by Claude Arzelier from Vodafone before presentation

No further action.

Revised in GP-000313

GP-000313 :: CR 04.18-A144 rev 1 Detailed coding modifications for the pre-configurations (R99)

Presented by Claude Arzelier from Vodafone

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Revision of GP-000209. Torbjörn was somewhat confused on the maximum size of the UE RAP PRECONFIGURATION message, which is limited to 250 octets. Bruno Landais was clarified that the classmark enquiry mask in a new IE sent in a new message. Some discussion on the spare bits in this message. Peter Edlund: UTRAN status information does not mention the security parameters to be provided by the MS. The CR is alligned with UTRAN Rec. 33.102, 3G security.

Revision in GP-000411

GP-000411 :: CR 04.18-A144 rev 2 Detailed coding modifications for the pre-configurations (R99)

Presented by Claude Arzelier from Vodafone

Revision of GP-000313. No comments.

Agreed

GP-000211 :: CR 04.18-A145 Allowing MT calls when downloading pre-configurations (R99)

Document from Vodafone

Open

GP-000213 :: CR 04.18-A146 Handover to UMTS description procedure including "blind handover" to UMTS

Presented by Claude Arzelier from Vodafone

Jean-François Minet wondered on the status of voice group services, and Claude Arzelier informed these sentences were intended to be removed. Jean-François Minet asked for this to be checked. Mungal: in 3.4.4b, DTM should be listed.

Revised in GP-000356

GP-000356 :: CR 04.18-A146 rev 1 Handover to UMTS description procedure including "blind handover" to UMTS

Presented by Claude Arzelier from Vodafone

Revision of GP-000213. Automatically agreed.

Agreed

GP-000270 :: CR 04.18-A147 Correction on UTRAN classmark change procedure (R99)

Revised before presentation

No further action.

Revision in GP-000353

GP-000353 :: CR 04.18-A147 rev 1 Correction on UTRAN classmark change procedure (R99)

Presented by Jean-François Minet from Nortel Networks

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Revision of GP-000270.

Agreed

GP-000234 :: CR 04.18-A148 Handover to UTRAN Command message format (R99)

Presented by Peter Edlund from Ericsson

Jean-François Minet noted that there is only little point in doing a lot of effort in trying to avoid segmentation. Peter Edlund explained the segmentation principles. Andrew Howell asks to be careful making assumptions on MS implementations. there is no need to make the IE a type 3, it can be kept as a type 4 with the length outside the message itself, and more futureproof. He emphasizes that requiring implementations to pass information about length between layers is not appropriate. Editorial mistake on cdma2000. Leif Friman: it is not sufficiently clear what to do with variable length. Claude Arzelier believed in the proposal and found it to work for the operators.

Revised as GP-000387

GP-000387 :: CR 04.18-A148 rev 1 Handover to UTRAN Command message format (R99)

Presented by Peter Edlund from Ericsson

Revision of GP-000234.

Open

GP-000236 :: CR 04.18-A149 RAB pre-configuration (R99)

Revised before presentation.

No further action.

Revision in GP-000348

GP-000348 :: CR 04.18-A149 rev 1 RAB pre-configuration (R99)

Presented by Peter Edlund from Ericsson

Revision of GP-000236. Leif Friman noted a half octet needed to be added for alignment. The document was presented for information only, as CR from Nokia on the same subject had been agreed.

Withdrawn

GP-000350 :: CR 04.18-A151 rev 1 UE Security in UTRAN CM CHANGE (R99)

Presented by Peter Edlund from Ericsson

Revision of GP-000288. CR for information only. All agreed changes are covered by Vodafone CR.

Withdrawn

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GP-000288 :: CR 04.18-A151 UE Security in UTRAN Classmark Change (R99)

Revised before presentation

No further action.

Revision in GP-000350

GP-000208 :: CR 04.60-A894 GPRS->UMTS Cell-Reselection (R99)

Presented by Claude Arzelier from Vodafone

Bruno Landais: 5.6.1, 3rd para, “these parameters” are a bit ambigius, and after the change, the behaviour is not the same as it was. Has the 96 limit been computed? What will be the behaviour of R97 MSs getting too many GSM cells. CSN.1 coding on BA-USED in table 57 needs to be bit**something. In 11.2.21, COMPACT is part of R99 and should be moved. Leif Friman: surprising that 3G parameters are not controlled by generation bits, they have been around since R97. Claude Arzelier: it has not been backward compatible due to embedded structures. Leif Friman: a length bit could also be applied after the generation bit.

Revised in GP-000347

GP-000347 :: CR 04.60-A894 rev 1 GPRS->UMTS Cell-Reselection (R99)

Presented by Claude Arzelier from Vodafone

Revision of GP-000208. No further comments.

Agreed

GP-000175 :: CR 08.08-A216 Correction of Signalling Field Element Coding (R99)

Presented by Kati Vainola from Nokia

No comments.

Agreed

GP-000177 :: CR 08.08-A217 Source Identification (R99)

Presented by Kati Vainola from Nokia

Jean-François Minet: the coding at the end of the document is related to the information of the old cell specified in the UTRAN. Why is it then specified according to the 04.08? Kati Vainola: the 04.08 coding is the same. It was decided to make the coding referring to the UMTS specs instead.

Revision in GP-000345

GP-000345 :: CR 08.08-A217 rev 1 Source Identification (R99)

Presented by Kati Vainola from Nokia

Revision of GP-000177.

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Agreed

GP-000268 :: CR 08.08-A218 Various corrections about Intersystem HO(R99)

Presented by Jean-François Minet from Nortel Networks

Kati Vainola: This IE is used for intersystem handover for MAP-E and can not be removed. Ericsson also indicated some use of it.

Rejected

GP-000286 :: CR 08.08-A224 Old to New BSS container (R99)

Revised before presentation

No further action.

Revision in GP-000415

GP-000415 :: CR 08.08-A224 rev 1 Old to new BSS container (R99)

Presented by Peter Edlund from Ericsson

Revision of GP-000286. The document number inside the files (on the front page) is the old Tdoc number, but the filename and technical content is correct. Various editorial comments. Claude Arzelier asked for the vocabulary to be checked.

Revision in GP-000424

GP-000424 :: CR 08.08-A224 rev 2 Old to new BSS container (R99)

Document from Ericsson

Revision of GP-000415.

Open

GP-000267 :: CR 44.018-018 Correction on Measurement Info Message (R00)

Presented by Jean-François Minet from Nortel Networks

Discussion as for GP-000266. Companion document on R00.

Agreed

GP-000205 :: CR 44.018-019 SI2ter bit map correction (R00)

Presented by Claude Arzelier from Vodafone

Discussion as for GP-000204.

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Revision in GP-000386

GP-000386 :: CR 44.018-019 rev 1 SI2ter bit map correction (R00)

Presented by Claude Arzelier from Vodafone

Revision of GP-000205

Agreed

GP-000207 :: CR 44.018-020 SI2quater updates to allow GPRS->UMTS Cell-Reselection (R00)

Presented by Claude Arzelier from Vodafone

Discussion as for GP-000206.

Agreed

GP-000210 :: CR 44.018-021 Detailed coding modifications for the pre-configurations (R00)

Presented by Claude Arzelier from Vodafone

Discussion as for GP-000313.

Revision in GP-000412

GP-000412 :: CR 44.018-021 rev 1 Detailed coding modifications for the pre-configurations (R00)

Document from Vodafone

Revision of GP-000210.

Agreed

GP-000212 :: CR 44.018-022 Allowing MT calls when downloading pre-configurations (R00)

Document from Vodafone

Open

GP-000214 :: CR 44.018-023 Handover to UMTS description procedure including "blind handover" to UMTS

Presented by Claude Arzelier from Vodafone

Discussion as for GP-000213.

Revised in GP-000357

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GP-000357 :: CR 44.018-023 rev 1 Handover to UMTS description procedure including "blind handover" to UMTS

Presented by Claude Arzelier from Vodafone

Revision of GP-000214, automatically agreed.

Agreed

GP-000271 :: CR 44.018-024 Correction on UTRAN classmark change procedure (R00

Revised before presentation

No further action.

Revision in GP-000354

GP-000354 :: CR 44.018-024 rev 1 Correction on UTRAN classmark change procedure (R00

Presented by Jean-François Minet from Nortel Networks

Revision of GP-000271. Companion document to TP-000353.

Agreed

GP-000235 :: CR 44.018-025 Handover to UTRAN Command message format (R00)

Presented by Peter Edlund from Ericsson

Discussion as for GP-000234.

Revised as GP-000388

GP-000388 :: CR 44.018-025 rev 1 Handover to UTRAN Command message format (R00)

Presented by Peter Edlund from Ericsson

Revision of GP-000235.

Open

GP-000237 :: CR 44.018-026 RAB pre-configuration (R00)

Revised before presentation.

No further action.

Revision in GP-000349

GP-000349 :: CR 44.018-026 rev 1 RAB pre-configuration (R00)

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Presented by Peter Edlund from Ericsson

Revision of GP-000237. Companion paper to GP-000349. Discussion as for GP-000348.

Withdrawn

GP-000289 :: CR 44.018-028 UE Security in UTRAN Classmark Change (R00)

Revised before presentation

No further action.

Revision in GP-000351

GP-000351 :: CR 44.018-028 rev 1 UE Security in UTRAN CM CHANGE (R00)

Presented by Peter Edlund from Ericsson

Revision of GP-000289. Discussion as for GP-000350.

Withdrawn

GP-000176 :: CR 48.008-008 Correction of Signalling Field Element Coding (R00)

Presented by Kati Vainola from Nokia

Discussion as for GP-000175.

Agreed

GP-000178 :: CR 48.008-009 Source Identification (R00)

Presented by Kati Vainola from Nokia

Discussion as for GP-000177.

Revision in GP-000346

GP-000346 :: CR 48.008-009 rev 1 Source Identification (R00)

Presented by Kati Vainola from Nokia

Revision of GP-000178. Companion document to GP-000345.

Agreed

GP-000269 :: CR 48.008-010 Various corrections about Intersystem HO(R00)

Presented by Jean-François Minet from Nortel Networks

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Discussion as for GP-000268, Companion document on R00.

Rejected

GP-000287 :: CR 48.008-013 Old to New BSS container (R00)

Revised before presentation

No further action.

Revision in GP-000416

GP-000416 :: CR 48.008-013 rev 1 Old to new BSS container (R00)

Presented by Peter Edlund from Ericsson

Revision of GP-000287. The document number inside the files (on the front page) is the old Tdoc number, but the filename and technical content is correct. Discussion as for GP-000415.

Revision in GP-000425

GP-000425 :: CR 48.008-013 rev 2 Old to new BSS container (R00)

Document from Ericsson

Revision of GP-000416.

Open

GP-000265 :: DRAFT (proposed) Liaison Statement on preventing unciphered writing/overwritting of pre-configuration fields by the HPLMN

Presented by Claude Arzelier from Vodafone

The draft LS is intended to be forwarded to S3 and T3. It was clarified that it is not yet defined where the information is stored. It might be difficult to store on a GSM SIM. Claude Arzelier informed that it wil be possible to have the CR for the next meeting.

Agreed

GP-000238 :: RAB Pre-Configuration concept

Presented by Peter Edlund from Ericsson

Jean-François Minet: what is the timestop measuring unit? Peter Edlund: the timestop purpose is to timelimit the validity of the downloaded preconfiguration information. Its lenth is for the operators to define. Claude Arzelier commented on the timestamp: the nwk operator has to foresee the validity of a given version. further, this proposal effectively mandates a realtime clock in the mobiles. Third, the pre-config will have to be refreshed at the expiry in any case. Vodafone prefers to broadcast the timestamp on system info and to tag the pre-cofigurations with a timestamp. Torbjörn: there are a risk of collision between download procedures of Call Setup and Location Update. Peter Edlund: the matter is priority between the functions. Jean-François Minet: this is not so simple. If advanced features are initiated, the configuration information needs to have been loaded before the start.

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Noted ; presented only for information by Ericsson, Vodafone having other means to fix things in already agreed CRs

8.2.5.3 Enhanced Packet Radio (E-GPRS) R99

GP-000155 :: CR 04.18-A136 Support of 11 bits request reference in IA and IAR messages (R99)

Presented by Bruno Landis from Alcatel

Sven Ekemark: some concern avaialble length in the IE rest octets. 11 bits fixed length seems too high, would prefer that the random part of the request is used. Further concern on recognition of the 2nd assignment message if assignment is carried in two messages. Further concern that the text in the description of the extended RA field is volumineous rather than precise. Editorial correction on CSN.1 code. Bruno Landais had made some computation of the length needed, and concluded that 45-50 bits are needed without full Mobile Allocation compared to 11 bits.

Revision in GP-000389

GP-000389 :: CR 04.18-A136 rev 1 Support of 11 bits request reference in IA and IAR messages (R99)

Presented by Bruno Landis from Alcatel

Revision of GP-000155.

Jean-François Minet had concern it the mapping of the last bits in the message are unambiguis. If a problem is identified, it will be corrected later.

Agreed

GP-000191 :: CR 04.18-A139 Interpretation addition of CELL_BAR_QUALIFY_2 value (R99)

Presented by Sven Ekemark from Ericsson

No comments

Agreed

GP-000158 :: CR 04.60-A879 CV within radio block made of 2 RLC data blocks (R99)

Presented by Bruno Landis from Alcatel

Some discussion if the last block will always have the right number. Jean-François Minet presented a worstcase scenario where this was not the case. It should be the highest numbered block within the window. A revision in GP-000391 was after some afterthought withdrawn, and this CR agreed.

Agreed

GP-000391 :: CR 04.60-A879 rev 1 CV within radio block made of 2 RLC data blocks (R99)

Presented by Bruno Landis from Alcatel

Revision of GP-000158. After some late checking, the original CR was found to be better.

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Withdrawn

GP-000193 :: CR 04.60-A888 Addition of CELL_BAR_QUALIFY_2 in neighbour cell descriptions

Presented by Sven Ekemark from Ericsson

No comments to the CR, but it was noted that the implementation of the CR could conflict with implementation of other CR if not done carefully.

Revised in GP-000392

GP-000392 :: CR 04.60-A888 rev 1 Addition of CELL_BAR_QUALIFY_2 in neighbour cell descriptions

Presented by Sven Ekemark from Ericsson

No comments.

Agreed

GP-000197 :: CR 04.60-A889 Correction of COMPACT neighbour cells description in PSI3bis (R99)

Presented by Andrew Howell from Motorola

No comments.

Agreed

GP-000198 :: CR 04.60-A891 Correction on I_LEVEL_TN(R99)

Presented by Andrew Howell from Motorola

Sven Ekemark: The reason for change is OK, but the change doesn't seem to achieve this. Some discussion on the availability of the link mesaurements availability at TBF establishment etc. Jean-François Minet noted that it also needs to be clarified when the measurements shall be transmitted, and how to avoid repeating them unnecessarily.

Revision in GP-000421.

GP-000421 :: CR 04.60-A891 rev 1 Correction on I_LEVEL_TN (R99)

Document from Motorola

Open

GP-000199 :: CR 04.60-A892 Maximum bit rate indication for radio interface (R99)

Presented by from Motorola, Nokia, Trium, BT-Cellnet

Sven Ekemark informed that the issue had been dealt with in WG1 and been rejected there. WG2 took note of this.

Rejected

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GP-000258 :: CR 04.60-A895 Correction to EGPRS OPA contention resolution

Presented by Guillaume Sébire from Nokia

The use of the word “eventual” was questioned, but found correct in this case. Jean-François Minet noted that this seemed to be pure optimisation, not necessity.

Postponed on Request from Sven Ekemark.

GP-000200 :: CR 24.008-xxx "Maximum bit rate indication for radio interface (for information) (R99)

Presented by from Motorola, Nokia, Trium, BT-Cellnet

As for GP-000199.

Rejected

GP-000156 :: CR 44.018-013 Support of 11 bits request reference in IA and IAR messages (R00)

Presented by Bruno Landis from Alcatel

Discussion as for GP-000155. Companion document on R00.

Revision in GP-000390

GP-000390 :: CR 44.018-013 rev 1 Support of 11 bits request reference in IA and IAR messages (R00)

Presented by Bruno Landis from Alcatel

Revision of GP-000156. Companion paper to GP-000389. Discussion as for that one.

Agreed

GP-000192 :: CR 44.018-016 Interpretation addition of CELL_BAR_QUALIFY_2 value (R00)

Presented by Sven Ekemark from Ericsson

Discussion as for GP-000191. Companion document on R00.

Agreed

8.2.5.4 Enhanced Circuit Switched Data (ECSD) R99

There were no inputs on this agenda point.

8.2.5.5 Enhanced data Rates for GSM Evolution (EDGE) R99

There were no inputs on this agenda point.

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8.2.5.6 GSM/EDGERAN Release 2000 and beyond

GP-000248 :: Alternative Approaches for GERAN RLC and MAC

Presented by Janne Parantainen from Nokia

No comments.

GENERAL GERAN NOTES:

Jean-François Minet: due to lack of time at the GERAN WG2 meetings, it is not possible to deal with the current and in the future expected increased number of GERAN documents with the current practice. He urged the companies to present merged papers, or papers only explaining the differences in order to save time. Furthermore, he invited better use of ad-hoc meetings to ensure the detailed technical discussions are held in fora where they belong.

Noted

GP-000249 :: Analysis of GERAN'00 RR Functionality

Presented by Shkumbin Hamiti from Nokia

Richard: Excellent document. It is also possible to incorporate PCCH procedures in the scope of RRC. Shkumbin Hamiti: good suggestion, but will take some time.

Noted

GP-000166 :: Fast Access based on Access Request Identifier

Presented by Ericsson

Guillaume Sébire questioned impact on PRACH, answer it would have little affect on signalling as it would replace existing signalling too. Janne Parantainen: for which trafic types is this intended. Signalling could be possible use. 8 bit is sufficient today but more might be needed.Bernard Guarind: It is dependent on operation spectrum allocations. Jean-François Minet: flexibility is nice, but has its costs in complexibility.

Noted

GP-000115 :: Fast Access for Short TBFs

Presented by Richard Ejjak from Lucent Technologies

Global discussion on fast access: Joachim: RA based fast access is possible, and should be discussed. Guillaume Sébire wants a single access scheme. Jean-François Minet noted that we already have several. It is not given by nature that R99 is the basis for compatibility. Guillaume Sébire noted that he would prefer Rxx compatibility in general, but that his point was that there whould be only one access scheme for fast access. Jean-François Minet noted that compatibility has several sides, e.g. backward compatibiltiy with older MSs on one side and compatibility with networks on the other. Richard supported the idea of single access scheme, but noted that different channels might have different access. ATT found the two proposals to be complimentary rather than conflicting. Guillaume Sébire: fast access implies redimensioning network planning on existing networks. After coffeebreak there were general agreement to add in stage 2 some provisions for fast access to RA.

Noted

GP-000245 :: Fast Access Scheme for GERAN

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Presented by Guillaume Sébire from Nokia

See GP-000115 for fass access discussion in general.

Noted

GP-000413 :: Proposed change to GERAN Stage 2 for Fast Access

Document from Nokia

Noted; it has to be circulated and reviewed in order to be presented on plenary for approval.

GP-000112 :: GERAN Design

Presented by Al Sacuta from Lucent Technologies

The paper had previously been discussed at the GERAN workshops. Jean-François Minet asked for discussion to await presentation of the other GERAN concept documents, and then to have a global discussion.

Noted

GP-000113 :: GERAN RRC States

Presented by Hong Lee from Lucent Technologies

The document was related to GP-000218. Shkumbin Hamiti: RRC states should be in RRC specification, nowhere else. When moving from shared to idle mode using TBF establishment procedures, however when from idle to shared, a TBF may not be existant. Jean-Michel Traynard: The current doc assumens that the MS is in either shared or dedicated mode. Richard: Simultaneous is for further study. Jean-François Minet clarified that shared and dedicated can exist simultaneously on different timelots. Mathias Johansson: why not unify the two states? Hong Lee: the procedures are too different.

Noted

GP-000250 :: GERAN'00 RRC States and RRC Connection Mobility

Document from Nokia

Open

GP-000252 :: Handover and Cell Reselection Concepts for GERAN

Document from Nokia

Open

GP-000114 :: Impacts of GERAN Protocol Architecture on GSM 04.60

Presented by Richard Ejjak from Lucent Technologies

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Discussion included in the global discussion on GERAN, see GP-000112. Jean-François Minet as a chairman expressed some concern on the establishing a new family of documents parallell to 04.60. Lucent noted this but found it was difficult though not impossible to maintain a single 04.60 with GERAN functionality implemented.

Noted

GP-000299 :: LS on GERAN MM, access rules and load sharing

Document from TSG GERAN

Open

GP-000297 :: LS on inter-BSC hard handover in GERAN

Document from TSG GERAN

Open

GP-000246 :: MAC Design for GERAN'00

Not presented

Due to lack of time, Guillaume Sébire asked the meeting to note this document without presentation.

Noted

GP-000163 :: MS Modes of Operation

Presented by Ericsson

Jean-François Minet: are new names for new classes intended? There are definitely new classes so some new definition are required. The definitions in 22.060 are not in GERAN control, so liaison are required. Claude Arzelier found that there were several issues in the document that was not appropriate, like hidden requirement on IuCs availability and assumptions that DTM. Reply: this proposal is for R00 only, not beyond that.

Jean-François Minet noted that it is not possible to keep all options open. Some restrictions need to be made. The goal in GP-000163 was acceptable to Jean-François Minet, even though some of the parts might need further work. Jean-François Minet proposed Ericsson to draft a CR to 22.060.

Clarification: Gb and Iu-Ps would be exclusive-OR for usage for the same MS. It was noted that clear information on this as well as other objectives for GERAN should have been available in a concept document.

Noted

GP-000251 :: Proposal for RRC Description to GERAN Stage 2

Presented by Shkumbin Hamiti from Nokia

Richard: the idea is good. It was clarified that the figures originated from UMTS. MS mode is a bit confusing, the terminology needs to be elaborated to avoid misunderstanding. Jean-Michel Traynard agrees on adding this to the specification but questions the interaction with other layers (USF). Mathias Johansson: there is a complete list of functions

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that need to be checked further. Shkumbin Hamiti: recognizes the concerns expresse, in particular those of Siemens on the figure, however it was not intended to split the functions. Agrees on the MS-mode comment.

Jean-François Minet stopped the discussion noting that agreement at this meeting appeared to be within reach. A revision could be presented at the plenary.

Open

GP-000217 :: Proposals for GERAN MAC Layer in R01

Document from Alcatel

Open

GP-000216 :: Proposals for GERAN shared MAC mode in R00

Presented by Emmanuel Seurre from Alcatel

Sven Ekemark: clarification that RRBP=0 means next block. Ute Esseling: If the network would use predictable allocation it has to be indicated to the MS. Arto Leppisaari: Reduced power consumption is always a good idea, but these proposals need further study. Andrew Howell: could be difficult to implement in the infrastructure. Emmanuel: agrees with Andrew. It should be studied more.

Jean-François Minet: the solution needs to produce draft CRs to show how this is implemented in 04.60 to be able to check the complexity. There are already too many options in GPRS. Jean-François Minet further clarified important at this stage is to agree certain goals for R00, and noted that all improvements has cost implications someway or another.

Noted

GP-000377 :: Proposed Change to Stage 2 Description Protocol architecture

Presented by Mathies Johansson from Ericsson

Shkumbin Hamiti proposed the last sentence in 5.1 on “evolved A interface” to be deleted. Various support and objections from the floor, but nothing really substantial. Jean-François Minet would like to shorten this discussion and postponed the document. See the global discussion on GERAN on GP-000112.

After some time and discussion: Shkumbin Hamiti found this still for further study. He clarified that he is objecting to the procedure of adding wrong information in 03.01. Claude Arzelier proposed a solution could be to put this in a note or similar. Jean-François Minet: agrees with Shkumbin Hamiti that the rules needs to be followed. However, Shkumbin Hamiti accepted if his opinion was minuted. With this, the meeting agreed this document can form the basis for futher work.

Noted

GP-000164 :: Proposed GERAN protocol architecture

Document from Ericsson

Open

GP-000170 :: RAB assignment procedure

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Presented by Mathias Johansson from Ericsson

No comments.

Noted

GP-000169 :: Reduction of the service outage time at Cell reselection in GPRS/EDGE/GERAN

Document from Ericsson

Open

GP-000247 :: RLC Design for GERAN'00

Not presented

Due to lack of time, Guillaume Sébire asked the meeting to note this document without presentation.

Noted

GP-000168 :: RLC/MAC PDU formats

Document from Ericsson

Noted without presentation.

GP-000171 :: RRC connection establishment procedure

Presented by Mathias Johansson from Ericsson

Jean-François Minet adviced to start drafting the new specifications. Shkumbin Hamiti: at last SMG2 meeting it was agreed to continue the 04.18, but for stage 2 it will be necessary to have some new specification.

Noted

GP-000218 :: RRC states

Presented by Mathias Johansson from Ericsson

Related to GP-000113. Richard: The states are very similar on a high level, but the sub-states need to be identified as states in their own right. Shkumbin Hamiti: this doc needs to be studied and discussed in more detail. Hong Lee: paging shall be included as RRC procedures.

Noted

GP-000165 :: Signalling for header removal in GERAN

Document from Ericsson

Noted without presentation

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GP-000404 :: Proposal for Header Adaptation Definitions

Presented by Frank Müller from Ericsson.

The proposal if for inclusion in Stage 2.

Jean-François Minet: this is not a definition but an explanation.

Frank Müller: at least for the near future, we will not have support of stripping. Frank Müller asked Nokia to provide an update for the GERAN ad-hoc.

Noted

GP-000352 :: Loadsharing mechanism between the 2G and 3G GERAN - CN interfaces

Presented by Gerald Finke from E-PLUS

It was clarified that this is only for R00 and upwards. Janne Parantainen: what happens if a R00 MS attached to a 2G service attempts to connect to a 3G service. Gerald Finke: that needs to be controlled by the network operator. Janne Parantainen: the network upon incoming 3G request should redirect the request to a 3G network. Gerald Finke: A R99 MS will not be able to send such a request. Jean-François Minet: will there be a way to switch an ongoing 2G service to a 3G service? Gerald Finke: No.

Jean-Michel Traynard: How should a re-direction of a 3G service be performed? Gerald Finke: This requires interaction between the higher and lower protocol layers in the MS. It was clarified that at least two operators would like to look further into this. Claude Arzelier: this issue should be dealt with by SA. Jean-François Minet: it is difficult to see agreement is near.

The key point was that 3G calls should not always use the 3G interface. A R00 phone may by the network be re-directed to a 2G network. If a use of a R00 phone this way attached to a 2G network wants to access 3G services, she will need to force the ms to make a 3G attach.

Jean-François Minet: this appears to lead to a completly new workitem.

Jean-François Minet advised to state all the goals and requirements as wellas the accepted restrictions of services in order to put an output LS to concerned WGs.

8.2.5.7 SoLSA

GP-000203 :: CR 04.60-A893 CSN1 backward compatibility corrections (R98)

Presented by Claude Arzelier from Vodafone

Jean-François Minet: expressed concern about increasing the difference between R97 and R98. The other manufactuers liked the change.

Agreed

8.2.5.8 ASCI features

GP-000032 :: CR 44.018-001 Wrong NLN reference (R00)

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Presented by Jean-François Minet on behalf of ETSI STF139

No comments.

Agreed

GP-000034 :: CR 48.008-001 VBS/VGCS assignment request message can be piggy-backed in a SCCP Connection Request message (R00)

Presented by Jean-François Minet on behalf of ETSI STF139

No comments.

Agreed

GP-000033 :: CR 48.008-002 CLEAR REQUEST use precision with VGCS/VBS call (R00)

Presented by Jean-François Minet on behalf of ETSI STF139

No comments.

Agreed

8.2.5.9 Location Services (LCS)

GP-000076 :: CR 04.35-A006 related to GPS Assistance Data Broadcast Message ciphering (R98)

Presented by Margaret Livingston from Nokia

Jean-François Minet questioned the spelling of “emphemeris”, which shall be “ephemeris”. Claude Arzelier had concerns that some previously ciphered fields would become unciphered and asked if S3 was informed of this issue. The reply from Margaret Livingston was that R00 would be alighed with this proposal.

Agreed

GP-000077 :: CR 04.35-A007 related to GPS Assistance Data Broadcast Message ciphering (R99)

Presented by Margaret Livingston from Nokia

Discussion as for GP-000076.

Agreed

GP-000078 :: CR 04.71-A005 related to modifications of the RIT measurements (R98)

Presented by Margaret Livingston from Nokia

Stephen Edge informed he had numerous comments on the detailed level, why the chairman decided a revision should be made before further presentation.

Revision in GP-000399

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GP-000399 :: CR 04.71-A005 rev 1 related to modifications of the RIT measurements (R98)

Document from Nokia

Revision of GP-000078.

Open

GP-000079 :: CR 04.71-A006 related to modifications of the RIT measurements (R99)

Presented by Margaret Livingston from Nokia

Some agreement was initially noted. Basically discussion as for GP-000078.

Revision in GP-000400

GP-000400 :: CR 04.71-A006 rev 1 related to modifications of the RIT measurements (R99)

Document from Nokia

Revision of GP-000079.

Open

GP-000010 :: CR 08.08-A210 Subject: Geographic Shape Restriction in LCS (R98)

Presented by from Siemens ICM

Same problem as for GP-000008.

Revision in GP-000395

GP-000395 :: CR 08.08-A210 rev 1 Subject: Geographic Shape Restriction in LCS (R98)

Document from Siemens ICM

Revision of GP-000010.

Open

GP-000011 :: CR 08.08-A211 Subject: Geographic Shape Restriction in LCS (R99)

Presented by from Siemens ICM

No comments.

Agreed

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GP-000229 :: CR 08.08-A219 Correction on LCS message coding (R98)

Presented by Peter Edlund from Ericsson

Stephen Edge noted that complete backward compatibility are probably not possible in any case with the introduction of LCS, and further this change would require further changes in 09.31 for example to align codepoints etc. Margaret Livingston noted that further checking are required and other modifications might be needed. Summary: Nokia was strongly against, Siemens moderately against the change, there were no one to support Ericsson.

Rejected

GP-000230 :: CR 08.08-A220 Correction on LCS message coding (R99)

Presented by Peter Edlund from Ericsson

Discussion as for GP-000229.

Rejected

GP-000008 :: CR 09.31-A017 Subject: Geographic Shape Restriction in LCS (R98)

Presented by Stephen Edge from Siemens ICM

Margaret Livingston noted that this is a late correction, and would like to see this optional. She proposed to seek a compromise. Some rephrasing was also needed in some sentences.

Revision in GP-000393

GP-000393 :: CR 09.31-A017 rev 1 Subject: Geographic Shape Restriction in LCS (R98)

Document from Siemens ICM

Revision of GP-000008.

Open

GP-000009 :: CR 09.31-A018 Subject: Geographic Shape Restriction in LCS (R99)

Presented by Stephen Edge from Siemens ICM

Jean-François Minet noted the remarks on GP-000008 (R98), and found this concern not to apply to R99.

Revision in GP-000394

GP-000394 :: CR 09.31-A018 rev 1 Subject: Geographic Shape Restriction in LCS (R99)

Document from Siemens ICM

Revision of GP-000009.

Open

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GP-000012 :: CR 48.008-003 Subject: Geographic Shape Restriction in LCS (R00)

Presented by from Siemens ICM

No comments.

Agreed

GP-000231 :: CR 48.008-011 Correction on LCS message coding (R00)

Presented by Peter Edlund from Ericsson

Discussion as for GP-000229.

Rejected

GP-000406 :: Open issues in LCS description stage 2 for R00

Document from Nokia

Open

GP-000172 :: Proposed changes to draft LCS Stage 2 spec in GERAN (R00)

Presented by Ie Hong Lin from Qualcomm

The document was found appropriate input for the offline drafting session on GP-000406, “Open issues in LCS description stage 2 for R00”

Noted

GP-000075 :: TS 43.059 ver. 0.0.1 Stage 2 Description of location Services in GERAN (R00)

Presented by Margaret Livingston from Nokia

Jean-François Minet rounded up Margaret Livingstons presentation listing a few of the isseus he could foresee, involving e.g. DTM. Stephen Edge: the document could be improved by being redrafted by further alignment with 03.71. Margaret Livingston welcomed an offline session to produce an improved output including comments from other manufacturers. SMLC is always considered as a separate entity. Document GP-000172 was noted to be a relevant input for the drafting session.

Revision in GP-000405

GP-000405 :: TS 43.059 ver. 0.0.2 Stage 2 Description of location Services in GERAN (R00)

Document from Nokia

Revision of GP-000075.

Open

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8.2.5.10 Support of frequency Bands

GP-000225 :: CR 24.008-xxx GSM 700 addition into MS classmark & radio access capability IE (R00)

Presented by Johanna Pekonen from Nokia

The CR was for information only at GERAN as 24.008 is under control of CN1. Jean-François Minet noted that the added support for new modulation on 700 MHz are not carried over to 400 MHz. Johanna Pekonen noted that this is for further study. Claude Arzelier pointed out that the 24.008 version used for the draft is outdated.

Revision in GP-000417

GP-000417 :: CR 24.008-xxx GSM 700 addition into MS classmark & radio access capability IE (R00)

Document from Nokia

Revision of GP-000225.

Open

GP-000418 :: Draft LS on GSM 700 addition into MS classmark & radio access capability IE

Document from Nokia

Open

8.2.5.11 Adaptive Multirate Codec (AMR) and Tandem Free Operation (TFO)

GP-000073 :: LS on Network Control of AMR Noise Suppressor

Document from ETSI SMG11

Open

GP-000358 :: CR 04.18-A152 Noise suppression control for AMR

Presented by Alain Ohana from BellSouth

Emmanuel Seurre: concern of impact of activation and deactivation of NSCB on echo cancellation. Alain Ohana: there is no noise cancellation specified for AMR. The proposed technology is a tradeoff between noise cancellation and speech quality. The CR is only providing the possibility to turn off a noise suppressor. It has been agreed in SGM11 and in SMG.

Agreed

GP-000359 :: CR 44.018-029 Noise suppression control for AMR

Presented by Alain Ohana from BellSouth

Discussion as for GP-000358.

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Agreed

8.2.5.12 Technical Enhancements and Improvement

GP-000045 :: Concept paper about the use of different USF Granularities in the uplink and downlink

Presented by Jean-Michel Traynard from Siemens

Jean-François Minet noted first that this concept paper should also be addressed to . Further, Jean-François Minet drew attention to an e-mail discussion on the reflector concluding that there were serious difficulties with the proposal and little gain. Sven Ekemark: the granularity linked to position withing the multiframe is is not compatible with existing networks due to polling that allow shifting the USF one block. The proposal is therefore not acceptable to Ericsson. Emmanuel Seurre found the idea of optimisation on these lines promising e.g. for power consumption and referred to a similar Alcatel paper presented in Biarritz. Sven Ekemark informed that a PDTCH is not shared except for a short period of overlap between release of preceeding TBF and next one. Further power consumption is affected by network behaviour and e.g. downlinks can be arranged in batches to achieve efficiency gains.Ute Esseling expressed concerns about QoS related to this feature. Franz Goldhofer noted that a granularity of one is still available to the operator if so desired.

Open

GP-000173 :: CR 08.08-A215 32 kbit/s UDI/RDI multimedia in GSM (R99)

Presented by Kati Vainola from Nokia

Kati Vainola noted that an editorial update is requied. No other comments.

Revision in GP-000382

GP-000382 :: CR 08.08-A215 rev 1 32 kbit/s UDI/RDI multimedia in GSM (R99)

Presented by Kati Vainola from Nokia

Revision of GP-000173

Agreed

GP-000263 :: CR 08.58-A054 Correction to Channel Mode IE

Presented by Kati Vainola from Nokia

No comments

Agreed

GP-000174 :: CR 48.008-007 32 kbit/s UDI/RDI multimedia in GSM (R00)

Presented by Kati Vainola from Nokia

Discussion as for GP-000173.

Revision in GP-000383

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GP-000383 :: CR 48.008-007 rev 1 32 kbit/s UDI/RDI multimedia in GSM (R00)

Presented by Kati Vainola from Nokia

Revision of GP-000174

Agreed

GP-000264 :: Proposed Answer to LS on 32 kbit/s UDI/RDI multimedia

Presented by Kati Vainola from Nokia

Editorial revision needed based on comments on the proper addressing of LSs, etc. by Jean-François Minet.

Revised as GP-000384

GP-000384 :: Proposed Answer to LS on 32 kbit/s UDI/RDI multimedia

Presented by Kati Vainola from Nokia

Revision of GP-000264.

Agreed

8.2.5.13 Other technical work

GP-000018 :: CR 04.08-A728 Extended measurement report (MAFA) (R96)

Revised before presentation.

No further action.

Revision in GP-000360

GP-000360 :: CR 04.08-A728 rev 1 Extended measurement report (MAFA) (R96)

Presented by Franz Goldhofer from Siemens

Revision of GP-000018. The proposal was supported by at least Alcatel, and no one objected.

Agreed

GP-000019 :: CR 04.08-A730 Extended measurement report (MAFA) (R97)

Revised before presentation.

No further action.

Revision in GP-000378

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GP-000378 :: CR 04.08-A730 rev 1 Extended measurement report (MAFA) (R97)

Presented by Franz Goldhofer from Siemens

Revision of GP-000019. Discussion as for GP-000360.

Agreed

GP-000020 :: CR 04.08-A732 Extended measurement report (MAFA) (R98)

Revised before presentation.

No further action.

Revision in GP-000379

GP-000379 :: CR 04.08-A732 rev 1 Extended measurement report (MAFA) (R98)

Presented by Franz Goldhofer from Siemens

Revision of GP-000020. Discussion as for GP-000360.

Agreed

GP-000021 :: CR 04.18-A126 Extended measurement report (MAFA) (R99)

Revised before presentation.

No further action.

Revision in GP-000380

GP-000380 :: CR 04.18-A126 rev 1 Extended measurement report (MAFA) (R99)

Presented by Franz Goldhofer from Siemens

Revision of GP-000021. Discussion as for GP-000360.

Agreed

GP-000232 :: CR 08.08-A223 CIC allocation correction (R99)

Presented by Peter Edlund from Ericsson

Jean-François Minet noted that this was very serious, and it could require changes to earlier releases too. Kati Vainola: this is how it should have been always. Leif Friman noted that such a change could lead to multi-vendor problems. Jean-François Minet noted that no implementors present indicated that they had implemented different from what was proposed by the change.

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After some time to allow checking, Nokia indicated that their products would not be compliant after the change. Ericsson noted that the ANSI specification is a cut n'paste from 08.08.

Open

GP-000022 :: CR 44.018-002 Extended measurement report (MAFA) (R00)

Revised before presentation.

No further action.

Revision in GP-000381

GP-000381 :: CR 44.018-002 rev 1 Extended measurement report (MAFA) (R00)

Presented by Franz Goldhofer from Siemens

Revision of GP-000022. Discussion as for GP-000360.

Agreed

GP-000233 :: CR 48.008-012 CIC allocation correction (R00)

Presented by Peter Edlund from Ericsson

Companion document to GP-000232.

Open

8.2.6 Letters to other groups

8.2.7 Work plan and future meetings

8.2.8 Any other business

The chairman closed the meeting at 19:00 on Thursday 30 August 2000 in order for the plenary to reconvene early the morning after.

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Annex A: List of delegates

For contact details please consult the report of SMG2 plenary.

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NAME	ORGANISATION
ARZELIER, Claude	VODAFONE AIRTOUCH
BARANY, Peter	Nortel Networks
BIENN, Marvin	Nortel Networks
BLACK, Jyoti	MOTOROLA
BLADSJÖ, David	Ericsson
CONNER, Keith	Lucent Technologies
DAKSHINAMOORTHY, Rani	Motorola
DESHMUKH, Sanjay	Motorola
DHANDA Mungal	MATSHUSHITA COMM. IND. UK LTD.
DIACHINA, John	Ericsson
EDLUND, Peter	ERICSSON RADIO
EJZAK, Richard	Lucent Technologies
EKEMARK Sven	ERICSSON
ESSELING, Ute	T-MOBIL
FINKE, Gerald	E-PLUS
FOUILLAND Pascal	MOTOROLA
FRIMAN, Leif	NOKIA
GOLDHOFER, Franz	SIEMENS AG
GONOROWSKY, Ilya	Motorola
GUAQUIERE, Thierry	FRANCE TELECOM-CNET
GUARINO, Bernard	AT&T
HAMITI, Shkumbin	NOKIA RESEARCH
HAMMER, Volkmar	France Telecom
HEDBERG, Tomas	Ericsson
HOWELL, Andrew	Motorola
HUO, David	Lucent Technologies
ISAACS, Ken	SIEMENS/Roke-Manor Research
JANSSEN, Fredrik	Ericsson
JOHANSSON, Mathias	Ericsson
KANGAS, Annti	NOKIA
KARWOWSKI, Oliver	Mannesmann Mobilfunk
KASTEIN, John	Motorola
LANDAIS, Bruno	ALCATEL
LEPPISAARI, Arto	NOKIA MOBILE PHONES
LIN, Ie. Hong	Qualcomm
LIVINGSTON, Margaret	Nokia
MALOUCHE, Zied	Nortel Networks
MINET, Jean-François	NORTEL NETWORKS
OHANA, Alain	BellSouth
OLOFSSON, Håkan	AT&T/Northstream
OLSSON, Torbjörn	Ericsson
PARANTAINEN, Janne	Nokia
PEKONEN Johanna	NOKIA
PIETRI, Pierre-Jean	Alcatel
PRENDERGAST, Doug	Mitsubishi MCTC
SACUTA, Al	Lucent Technologies
SÉBIRE, Benoist	Nokia
SÉBIRE, Guillaume	Nokia
SEURRE, Emmanuel	ALCATEL
SHEN, Donglin	AT&T
SJERLING, Klas	Ericsson
SORELIUS, Joachim	Ericsson
STRÖMME, Jon E.	Telelogic AB
THOMASEN, Gert	ETSI
TIMIRI, Shailender	AT&T
TRAYNARD, Jean-Michel	Siemens
VAINOLA, Kati	NOKIA
WILLIAMS, David	Qualcomm
WOMACK, James	Motorola

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WOODWARD, Ernest	Intel
XIE, Hong	Lucent Technologies

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Annex C: Tables of Change Requests dealt with by TSG GERAN WG2

GP-000091	CR 03.64-A074 DTM+EGPRS (R99)	Agreed	8.2.5.1
GP-000154	CR 03.64-A075 DTM alignments	Agreed	8.2.5.1
GP-000025	CR 04.08-A736 Handling of Power-Control-Parameter alpha (R97)	Agreed	8.2.5.1
GP-000026	CR 04.08-A738 Handling of Power-Control-Parameter alpha (R98)	Agreed	8.2.5.1
GP-000027	CR 04.18-A125 Handling of Power-Control-Parameter alpha (R99)	Agreed	8.2.5.1
GP-000121	CR 04.18-A127 DTM: Removal of polling from DTM assignment (R99)	Agreed	8.2.5.1
GP-000123	CR 04.18-A128 DTM: Correction of timers T3148 and T3107 (R99)	Revised in GP-000342	8.2.5.1
GP-000342	CR 04.18-A128 rev 1 DTM: Correction of timers T3148 and T3107 (R99)	Agreed	8.2.5.1
GP-000127	CR 04.18-A129 DTM: tunnelling of GPRS signalling on the main DCCH (R99)	Agreed	8.2.5.1
GP-000132	CR 04.18-A130 DTM: provision of GPRS information for correct DTM behaviour (R99)	Revision in GP-000314	8.2.5.1
GP-000314	CR 04.18-A130 rev 1 DTM: provision of GPRS information for correct DTM behaviour (R99)	Agreed	8.2.5.1
GP-000137	CR 04.18-A131 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)	Revised in GP-000317	8.2.5.1
GP-000317	CR 04.18-A131 rev 1 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R99)	Agreed	8.2.5.1
GP-000142	CR 04.18-A132 DTM: alignment of the handover procedure (R99)	Agreed	8.2.5.1
GP-000144	CR 04.18-A133 DTM: clarification of Radio Link Failure and RR connection abortion while in DTM (R99)	Agreed	8.2.5.1
GP-000146	CR 04.18-A134 DTM: removal of the Main DCCH Assignment message (R99)	Revision in GP-000337	8.2.5.1
GP-000337	CR 04.18-A134 rev 1 DTM: removal of the Main DCCH Assignment message (R99)	Agreed	8.2.5.1
GP-000150	CR 04.18-A135 DTM: definition (R99)	Agreed	8.2.5.1
GP-000179	CR 04.18-A137 DTM: GPRS information for DTM operation - TBF re-establishment (R99)	Agreed.	8.2.5.1
GP-000185	CR 04.18-A138 Correction of Table 10.5.60/GSM 04.18 (R99)	Withdrawn	8.2.5.1
GP-000095	CR 04.18-A140 DTM+EGPRS (R99)	Agreed	8.2.5.1
GP-000259	CR 04.18-A150 Editorial correction on RR Packet Uplink/Downlink Assigment (R99)	Revision in GP-000306	8.2.5.1
GP-000306	CR 04.18-A150 rev 1 Editorial correction on RR Packet Uplink/Downlink Assigment (R99)	Agreed	8.2.5.1
GP-000056	CR 04.60-A845 rev 3 DTM: Exclusive allocation and other DTM alignments	Revision in GP-000341	8.2.5.1
GP-000341	CR 04.60-A845 rev 4 DTM: Exclusive allocation and other DTM alignments	Agreed	8.2.5.1
GP-000023	CR 04.60-A872 Correction of RLC/MAC message (R97) (Wrong incorporation of CR A731)	Agreed	8.2.5.1
GP-000024	CR 04.60-A873 Correction of RLC/MAC message (R98) (Wrong incorporation of CR A732)	Agreed	8.2.5.1
GP-000046	CR 04.60-A874 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R97)	Agreed	8.2.5.1
GP-000047	CR 04.60-A875 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R98)	Agreed	8.2.5.1
GP-000048	CR 04.60-A876 Clarification on Timeslot Number in the Fixed Allocation Bitmap (R99)	Agreed	8.2.5.1

GP-000131	CR 04.60-A877 DTM: cell support indication (R99)	Agreed	8.2.5.1
GP-000157	CR 04.60-A878 Editorial correction on cell reselection (R99)	Agreed	8.2.5.1
GP-000181	CR 04.60-A880 DTM: GPRS information for DTM operation - TBF re-establishment (R99)	Agreed.	8.2.5.1
GP-000320	CR 04.60-A880 rev 1 DTM: GPRS information for DTM operation - TBF re-establishment (R99)	Withdrawn	8.2.5.1
GP-000182	CR 04.60-A881 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R97)	Revision in GP-000303	8.2.5.1
GP-000303	CR 04.60-A881 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R97)	Agreed	8.2.5.1
GP-000183	CR 04.60-A882 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R98)	Revision in GP-000304	8.2.5.1
GP-000304	CR 04.60-A882 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R98)	Agreed	8.2.5.1
GP-000184	CR 04.60-A883 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R99)	Revision in GP-000305	8.2.5.1
GP-000305	CR 04.60-A883 rev 1 Correction of Packet Measurement Order and PSI5 messages (EM1 struct) (R99)	Agreed	8.2.5.1
GP-000187	CR 04.60-A884 Correction of Packet PDCH Release procedure (TIMESLOT_ALLOCATION) (R99)	Agreed	8.2.5.1
GP-000188	CR 04.60-A885 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R97)	Revised as GP-000410	8.2.5.1
GP-000407	CR 04.60-A885 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R97)	Agreed	8.2.5.1
GP-000189	CR 04.60-A886 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R98)	Revised as GP-000408	8.2.5.1
GP-000408	CR 04.60-A886 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R98)	Agreed	8.2.5.1
GP-000190	CR 04.60-A887 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R99)	Revised as GP-000409	8.2.5.1
GP-000409	CR 04.60-A887 rev 1 Correction of CSN.1 in "Neighbour cell parameters 2 struct" (R99)	Revised as GP-000467	8.2.5.1
GP-000215	CR 04.60-A890 Miscellaneous corrections on packet access and message coding (R99)	Revision in GP-000308	8.2.5.1
GP-000308	CR 04.60-A890 rev 1 Miscellaneous corrections on packet access and message coding (R99)	Revision in GP-000466	8.2.5.1
GP-000261	CR 04.60-A896 Alignment of abnormal cases (R99)	Revision in GP-000311	8.2.5.1
GP-000311	CR 04.60-A896 rev 1 Alignment of abnormal cases (R99)	Agreed	8.2.5.1
GP-000301	CR 04.60-A897 Delaying the final Packet Uplink Ack/Nack (R99)	Open	8.2.5.1
GP-000302	CR 04.60-A898 Polling GPRS MS for uplink data after downlink TBF release (R99)	Open	8.2.5.1
GP-000310	CR 04.60-A899 Correction of Packet Flow Context Procedures (R99)	Revision in GP-000419.	8.2.5.1
GP-000419	CR 04.60-A899 rev 1 Correction of Packet Flow Context Procedures (R99)	Open	8.2.5.1
GP-000410	CR 04.60-A900 Clarification of assembling convention for RLC/MAC control blocks	Open	8.2.5.1
GP-000140	CR 08.08-A212 DTM: correction to DTM information in Old BSS to new BSS Information IE (R99)	Agreed	8.2.5.1
GP-000148	CR 08.08-A213 DTM: deletion of reference to PDSS2 (R99)	Agreed	8.2.5.1
GP-000152	CR 08.08-A214 DTM: clarification of the use of the COMMOM ID message (R99)	Revision in GP-000339	8.2.5.1

GP-000339	CR 08.08-A214 rev 1 DTM: clarification of the use of the COMMOM ID message (R99)	Revision in GP-000422	8.2.5.1
GP-000422	CR 08.08-A214 rev 2 DTM: clarification of the use of the COMMOM ID message (R99)	Open	8.2.5.1
GP-000129	CR 08.18-A104 DTM: tunnelling of GPRS signalling on the main DCCH (R99)	Agreed	8.2.5.1
GP-000135	CR 08.18-A105 DTM: download of the IMSI from the SGSN to the BSC	Agreed	8.2.5.1
GP-000139	CR 08.18-A106 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities	Agreed	8.2.5.1
GP-000309	CR 08.18-A107 Gb Interface: BSS Packet Flow Context Procedures (R99)	Open	8.2.5.1
GP-000398	CR 08.18-A108 Leaky bucket synchronization in BSSGP	Revision in GP-000420.	8.2.5.1
GP-000420	CR 08.18-A108 rev 1 Leaky bucket synchronization in BSSGP	Noted	8.2.5.1
GP-000028	CR 44.018-003 Handling of Power-Control-Parameter alpha (R00)	Agreed	8.2.5.1
GP-000122	CR 44.018-004 DTM: Removal of polling from DTM assignment (R00)	Agreed	8.2.5.1
GP-000124	CR 44.018-005 DTM: Correction of timers T3148 and T3107 (R00)	Revised in GP-000343	8.2.5.1
GP-000343	CR 44.018-005 rev 1 DTM: Correction of timers T3148 and T3107 (R00)	Agreed	8.2.5.1
GP-000128	CR 44.018-006 DTM: tunnelling of GPRS signalling on the main DCCH (R00)	Agreed	8.2.5.1
GP-000133	CR 44.018-007 DTM: provision of GPRS information for correct DTM behaviour (R00)	Revision in GP-000315 which is then automatically agreed.	8.2.5.1
GP-000315	CR 44.018-007 rev 1 DTM: provision of GPRS information for correct DTM behaviour (R00)	Agreed	8.2.5.1
GP-000138	CR 44.018-008 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R00)	Revised in GP-000318	8.2.5.1
GP-000318	CR 44.018-008 rev 1 DTM: reuse of the GPRS Suspension procedure in cells with no DTM capabilities (R00)	Agreed	8.2.5.1
GP-000143	CR 44.018-009 DTM: alignment of the handover procedure (R00)	Agreed	8.2.5.1
GP-000145	CR 44.018-010 DTM: clarification of Radio Link Failure and RR connection abortion while in DTM (R00)	Agreed	8.2.5.1
GP-000147	CR 44.018-011 DTM: removal of the Main DCCH Assignment message (R00)	Revision in GP-000338	8.2.5.1
GP-000338	CR 44.018-011 rev 1 DTM: removal of the Main DCCH Assignment message (R00)	Agreed	8.2.5.1
GP-000151	CR 44.018-012 DTM: definition (R00)	Agreed	8.2.5.1
GP-000180	CR 44.018-014 DTM: GPRS information for DTM operation - TBF re-establishment (R00)	Agreed.	8.2.5.1
GP-000186	CR 44.018-015 Correction of Table 10.5.60/GSM 44.018 (R00)	Withdrawn	8.2.5.1
GP-000096	CR 44.018-017 DTM+EGPRS (R00)	Agreed	8.2.5.1
GP-000260	CR 44.018-027 Editorial correction on RR Packet Uplink/Downlink Assigment (R00)	Revision in GP-000307	8.2.5.1
GP-000307	CR 44.018-027 rev 1 Editorial correction on RR Packet Uplink/Downlink Assigment (R00)	Agreed	8.2.5.1
GP-000141	CR 48.008-004 DTM: correction to DTM information in Old BSS to new BSS Information IE (R00)	Agreed	8.2.5.1
GP-000149	CR 48.008-005 DTM: deletion of reference to PDSS2 (R00)	Agreed	8.2.5.1

GP-000153	CR 48.008-006 DTM: clarification of the use of the COMMOM ID message (R00)	Revision in GP-000340	8.2.5.1
GP-000340	CR 48.008-006 rev 1 DTM: clarification of the use of the COMMOM ID message (R00)	Revision in GP-000423	8.2.5.1
GP-000443	CR 48.008-006 rev 2 DTM: clarification of the use of the COMMOM ID message (R00)	Open	8.2.5.1
GP-000358	CR 04.18-A152 Noise suppression control for AMR	Agreed	8.2.5.11
GP-000359	CR 44.018-029 Noise suppression control for AMR	Agreed	8.2.5.11
GP-000173	CR 08.08-A215 32 kbit/s UDI/RDI multimedia in GSM (R99)	Revision in GP-000382	8.2.5.12
GP-000382	CR 08.08-A215 rev 1 32 kbit/s UDI/RDI multimedia in GSM (R99)	Agreed	8.2.5.12
GP-000263	CR 08.58-A054 Correction to Channel Mode IE	Agreed	8.2.5.12
GP-000174	CR 48.008-007 32 kbit/s UDI/RDI multimedia in GSM (R00)	Revision in GP-000383	8.2.5.12
GP-000383	CR 48.008-007 rev 1 32 kbit/s UDI/RDI multimedia in GSM (R00)	Agreed	8.2.5.12
GP-000018	CR 04.08-A728 Extended measurement report (MAFA) (R96)	Revision in GP-000360	8.2.5.13
GP-000360	CR 04.08-A728 rev 1 Extended measurement report (MAFA) (R96)	Agreed	8.2.5.13
GP-000019	CR 04.08-A730 Extended measurement report (MAFA) (R97)	Revision in GP-000378	8.2.5.13
GP-000378	CR 04.08-A730 rev 1 Extended measurement report (MAFA) (R97)	Agreed	8.2.5.13
GP-000020	CR 04.08-A732 Extended measurement report (MAFA) (R98)	Revision in GP-000379	8.2.5.13
GP-000379	CR 04.08-A732 rev 1 Extended measurement report (MAFA) (R98)	Agreed	8.2.5.13
GP-000021	CR 04.18-A126 Extended measurement report (MAFA) (R99)	Revision in GP-000380	8.2.5.13
GP-000380	CR 04.18-A126 rev 1 Extended measurement report (MAFA) (R99)	Agreed	8.2.5.13
GP-000232	CR 08.08-A223 CIC allocation correction (R99)	Open	8.2.5.13
GP-000022	CR 44.018-002 Extended measurement report (MAFA) (R00)	Revision in GP-000381	8.2.5.13
GP-000381	CR 44.018-002 rev 1 Extended measurement report (MAFA) (R00)	Agreed	8.2.5.13
GP-000233	CR 48.008-012 CIC allocation correction (R00)	Open	8.2.5.13
GP-000266	CR 04.18-A141 Correction on Measurement Info Message (R99)	Agreed	8.2.5.2
GP-000385	CR 04.18-A142 rev 1 SI2ter bit map correction (R99)	Agreed	8.2.5.2
GP-000204	CR 04.18-A142 SI2ter bit map correction (R99)	Revision in GP-000385	8.2.5.2
GP-000206	CR 04.18-A143 SI2quater updates to allow GPRS->UMTS Cell-Reselection (R99)	Agreed	8.2.5.2
GP-000209	CR 04.18-A144 Detailed coding modifications for the pre-configurations (R99)	Revised in GP-000313	8.2.5.2
GP-000313	CR 04.18-A144 rev 1 Detailed coding modifications for the pre-configurations (R99)	Revision in GP-000411	8.2.5.2
GP-000411	CR 04.18-A144 rev 2 Detailed coding modifications for the pre-configurations (R99)	Agreed	8.2.5.2
GP-000211	CR 04.18-A145 Allowing MT calls when downloading pre-configurations (R99)	Open	8.2.5.2
GP-000213	CR 04.18-A146 Handover to UMTS description procedure including "blind handover" to UMTS	Revised in GP-000356	8.2.5.2
GP-000356	CR 04.18-A146 rev 1 Handover to UMTS description procedure including "blind handover" to UMTS	Agreed	8.2.5.2
GP-000270	CR 04.18-A147 Correction on UTRAN classmark change procedure (R99)	Revision in GP-000353	8.2.5.2

GP-000353	CR 04.18-A147 rev 1 Correction on UTRAN classmark change procedure (R99)	Agreed	8.2.5.2
GP-000234	CR 04.18-A148 Handover to UTRAN Command message format (R99)	Revised as GP-000387	8.2.5.2
GP-000387	CR 04.18-A148 rev 1 Handover to UTRAN Command message format (R99)	Open	8.2.5.2
GP-000236	CR 04.18-A149 RAB pre-configuration (R99)	Revision in GP-000348	8.2.5.2
GP-000348	CR 04.18-A149 rev 1 RAB pre-configuration (R99)	Withdrawn	8.2.5.2
GP-000350	CR 04.18-A151 rev 1 UE Security in UTRAN CM CHANGE (R99)	Withdrawn	8.2.5.2
GP-000288	CR 04.18-A151 UE Security in UTRAN Classmark Change (R99)	Revision in GP-000350	8.2.5.2
GP-000208	CR 04.60-A894 GPRS->UMTS Cell-Reselection (R99)	Revised in GP-000347	8.2.5.2
GP-000347	CR 04.60-A894 rev 1 GPRS->UMTS Cell-Reselection (R99)	Agreed	8.2.5.2
GP-000175	CR 08.08-A216 Correction of Signalling Field Element Coding (R99)	Agreed	8.2.5.2
GP-000345	CR 08.08-A217 rev 1 Source Identification (R99)	Agreed	8.2.5.2
GP-000177	CR 08.08-A217 Source Identification (R99)	Revision in GP-000345	8.2.5.2
GP-000268	CR 08.08-A218 Various corrections about Intersystem HO(R99)	Rejected	8.2.5.2
GP-000286	CR 08.08-A224 Old to New BSS container (R99)	Revision in GP-000415	8.2.5.2
GP-000415	CR 08.08-A224 rev 1 Old to new BSS container (R99)	Revision in GP-000424	8.2.5.2
GP-000424	CR 08.08-A224 rev 2 Old to new BSS container (R99)	Open	8.2.5.2
GP-000267	CR 44.018-018 Correction on Measurement Info Message (R00)	Agreed	8.2.5.2
GP-000386	CR 44.018-019 rev 1 SI2ter bit map correction (R00)	Agreed	8.2.5.2
GP-000205	CR 44.018-019 SI2ter bit map correction (R00)	Revision in GP-000386	8.2.5.2
GP-000207	CR 44.018-020 SI2quater updates to allow GPRS->UMTS Cell-Reselection (R00)	Agreed	8.2.5.2
GP-000210	CR 44.018-021 Detailed coding modifications for the pre-configurations (R00)	Revision in GP-000412	8.2.5.2
GP-000412	CR 44.018-021 rev 1 Detailed coding modifications for the pre-configurations (R00)	Open	8.2.5.2
GP-000212	CR 44.018-022 Allowing MT calls when downloading pre-configurations (R00)	Open	8.2.5.2
GP-000214	CR 44.018-023 Handover to UMTS description procedure including "blind handover" to UMTS	Revised in GP-000357	8.2.5.2
GP-000357	CR 44.018-023 rev 1 Handover to UMTS description procedure including "blind handover" to UMTS	Agreed	8.2.5.2
GP-000271	CR 44.018-024 Correction on UTRAN classmark change procedure (R00	Revision in GP-000354	8.2.5.2
GP-000354	CR 44.018-024 rev 1 Correction on UTRAN classmark change procedure (R00	Agreed	8.2.5.2
GP-000235	CR 44.018-025 Handover to UTRAN Command message format (R00)	Revised as GP-000388	8.2.5.2
GP-000388	CR 44.018-025 rev 1 Handover to UTRAN Command message format (R00)	Open	8.2.5.2
GP-000237	CR 44.018-026 RAB pre-configuration (R00)	Revision in GP-000349	8.2.5.2
GP-000349	CR 44.018-026 rev 1 RAB pre-configuration (R00)	Withdrawn	8.2.5.2
GP-000351	CR 44.018-028 rev 1 UE Security in UTRAN CM CHANGE (R00)	Withdrawn	8.2.5.2
GP-000289	CR 44.018-028 UE Security in UTRAN Classmark Change (R00)	Revision in GP-000351	8.2.5.2
GP-000176	CR 48.008-008 Correction of Signalling Field Element Coding (R00)	Agreed	8.2.5.2
GP-000346	CR 48.008-009 rev 1 Source Identification (R00)	Agreed	8.2.5.2
GP-000178	CR 48.008-009 Source Identification (R00)	Revision in GP-000346	8.2.5.2

GP-000269	CR 48.008-010 Various corrections about Intersystem HO(R00)	Rejected	8.2.5.2
GP-000287	CR 48.008-013 Old to New BSS container (R00)	Revision in GP-000416	8.2.5.2
GP-000416	CR 48.008-013 rev 1 Old to new BSS container (R00)	Revision in GP-000425	8.2.5.2
GP-000425	CR 48.008-013 rev 2 Old to new BSS container (R00)	Open	8.2.5.2
GP-000389	CR 04.18-A136 rev 1 Support of 11 bits request reference in IA and IAR messages (R99)	Agreed	8.2.5.3
GP-000155	CR 04.18-A136 Support of 11 bits request reference in IA and IAR messages (R99)	Revision in GP-000389	8.2.5.3
GP-000191	CR 04.18-A139 Interpretation addition of CELL_BAR_QUALIFY_2 value (R99)	Agreed	8.2.5.3
GP-000158	CR 04.60-A879 CV within radio block made of 2 RLC data blocks (R99)	Agreed	8.2.5.3
GP-000391	CR 04.60-A879 rev 1 CV within radio block made of 2 RLC data blocks (R99)	Withdrawn	8.2.5.3
GP-000193	CR 04.60-A888 Addition of CELL_BAR_QUALIFY_2 in neighbour cell descriptions	Revised in GP-000392	8.2.5.3
GP-000392	CR 04.60-A888 rev 1 Addition of CELL_BAR_QUALIFY_2 in neighbour cell descriptions	Agreed	8.2.5.3
GP-000197	CR 04.60-A889 Correction of COMPACT neighbour cells description in PSI3bis (R99)	Agreed	8.2.5.3
GP-000198	CR 04.60-A891 Correction on I_LEVEL_TN(R99)	Revision in GP-000421.	8.2.5.3
GP-000421	CR 04.60-A891 rev 1 Correction on I_LEVEL_TN (R99)	Open	8.2.5.3
GP-000199	CR 04.60-A892 Maximum bit rate indication for radio interface (R99)	Rejected	8.2.5.3
GP-000258	CR 04.60-A895 Correction to EGPRS OPA contention resolution	Open	8.2.5.3
GP-000200	CR 24.008-xxx "Maximum bit rate indication for radio interface (for information) (R99)	Rejected	8.2.5.3
GP-000390	CR 44.018-013 rev 1 Support of 11 bits request reference in IA and IAR messages (R00)	Agreed	8.2.5.3
GP-000156	CR 44.018-013 Support of 11 bits request reference in IA and IAR messages (R00)	Revision in GP-000390	8.2.5.3
GP-000192	CR 44.018-016 Interpretation addition of CELL_BAR_QUALIFY_2 value (R00)	Agreed	8.2.5.3
GP-000203	CR 04.60-A893 CSN1 backward compatibility corrections (R98)	Agreed	8.2.5.7
GP-000032	CR 44.018-001 Wrong NLN reference (R00)	Agreed	8.2.5.8
GP-000034	CR 48.008-001 VBS/VGCS assignment request message can be piggy-backed in a SCCP Connection Request message (R00)	Agreed	8.2.5.8
GP-000033	CR 48.008-002 CLEAR REQUEST use precision with VGCS/VBS call (R00)	Agreed	8.2.5.8
GP-000076	CR 04.35-A006 related to GPS Assistance Data Broadcast Message ciphering (R98)	Agreed	8.2.5.9
GP-000077	CR 04.35-A007 related to GPS Assistance Data Broadcast Message ciphering (R99)	Agreed	8.2.5.9
GP-000078	CR 04.71-A005 related to modifications of the RIT measurements (R98)	Revision in GP-000399	8.2.5.9
GP-000399	CR 04.71-A005 rev 1 related to modifications of the RIT measurements (R98)	Open	8.2.5.9
GP-000079	CR 04.71-A006 related to modifications of the RIT measurements (R99)	Revision in GP-000400	8.2.5.9
GP-000400	CR 04.71-A006 rev 1 related to modifications of the RIT measurements (R99)	Open	8.2.5.9
GP-000395	CR 08.08-A210 rev 1 Subject: Geographic Shape Restriction in LCS (R98)	Open	8.2.5.9

GP-000010	CR 08.08-A210 Subject: Geographic Shape Restriction in LCS (R98)	Revision in GP-000395	8.2.5.9
GP-000011	CR 08.08-A211 Subject: Geographic Shape Restriction in LCS (R99)	Agreed	8.2.5.9
GP-000229	CR 08.08-A219 Correction on LCS message coding (R98)	Rejected	8.2.5.9
GP-000230	CR 08.08-A220 Correction on LCS message coding (R99)	Rejected	8.2.5.9
GP-000393	CR 09.31-A017 rev 1 Subject: Geographic Shape Restriction in LCS (R98)	Open	8.2.5.9
GP-000008	CR 09.31-A017 Subject: Geographic Shape Restriction in LCS (R98)	Revision in GP-000393	8.2.5.9
GP-000394	CR 09.31-A018 rev 1 Subject: Geographic Shape Restriction in LCS (R99)	Open	8.2.5.9
GP-000009	CR 09.31-A018 Subject: Geographic Shape Restriction in LCS (R99)	Revision in GP-000394	8.2.5.9
GP-0 n 00012	CR 48.008-003 Subject: Geographic Shape Restriction in LCS (R00)	Agreed	8.2.5.9
GP-000231	CR 48.008-011 Correction on LCS message coding (R00)	Rejected	8.2.5.9

Annex D: Output Liaison Statements and Replies

GP-000355 :: LS to SA2 on 23.060 CRs for Dual Transfer Mode

GERAN WG 2 output.

No comments. The LS was found ready to be sent to SA2.

Agreed

GP-000418 :: Draft LS on GSM 700 addition into MS classmark & radio access capability IE

Document from Nokia

Not reviewed

GP-000414 :: Response to LS from CN WG1 on Proposal of exchange of terms "in GSM" and "in UMTS"

Document from TSG GERAN WG2

Draft response to LS in GP-000227.

Agreed

ANNEX H - Report from WG3 at GERAN#1

TD GP-000369

3rd Generation Partnership Project (3GPP);

Technical Specification Group GERAN (TSG-GERAN);

Working Group 3 Base Station Testing and O&M;

Draft Meeting Report

GERAN#1, Seattle , USA, 28 August –1September 2000

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Convenor: Åke BUSIN, Ericsson
Secretary: Åke BUSIN, Ericsson

8.3.1 Opening of the meeting

The meeting was opened by the convenor, Åke BUSIN. He welcomed the delegates to the GERAN WG3 meeting, which was hosted by "Friends of 3GPP" in Seattle, USA. A list of delegates can be found in Annex C.
The convenor informed that on the second meeting a vote of chairman will take place.

8.3.2 Approval of the agenda

The agenda in **Tdoc (00)0004** was approved.

The documents were assigned to the agenda items. The list of all documents can be found in Annex B.

8.3.3 Review of GERAN WG3 work area

Tdoc (00)0280 containing the Terms of Reference for GERAN WG3 was reviewed. The document was noted.

Tdoc (00)0050 shows the numbering and version information for the specifications under responsibility of GERAN WG3. It also contains extracts from the ETSI Works & Standards monitoring on specifications that under voting at ETSI. It was provided for information. The convenor informed that a list of the specification transferred to TSG GERAN is being prepared by MCC. When this list is released the list for WG3 specification might need to be updated.

The convenor reminded that European (harmonised) standards are NOT within the scope of GERAN WG3 and that the responsibility of GSM 13.21 was transferred to ETSI TC MSG. To the understanding of the convenor TC MSG are free to source CR to relevant specifications maintained by GERAN WG3.

8.3.4 Letters / Reports from other groups

8.3.4.1 TSG-CN, TSG-RAN, TSG-SA, TSG-T and PCG/OP

No input.

8.3.4.2 From partners and their bodies

The report from the last meeting of ETSI SMG2 WPC held in Biarritz, France 24 – 25 May 2000 (**Tdoc (00)0049**) was reviewed for information.

The open actions from the above report was reviewed and commented:

#34/1 Åke BUSIN to contact the rapporteur of GSM 11.22 Malcom PERRY (Nokia) on the necessary update of GSM 11.22.

Åke BUSIN reported has been in contact with Malcom PERRY but he does no longer work in this area. On suggestion of Mr PERRY the question was forwarded by mail to Graeme ALLAN. Mr ALLAN is on vacation until 1 September.

It was decided to also in GERAN WG3 append a action list to the meeting report. The above issue was added to the action list

#34/3 Åke BUSIN will inform ETSI Safety WG-TC74 as soon changes have been done to GSM 11.22.

Finalized, see Item 8.3.8.

Tdoc (00)0052 and **Tdoc (00)0057** is a LS from ETSI ERM/EMC informing SMG2 that some test cases on emissions from enclosure and from antenna connector has been removed from EN 300 342-3 and EN 301

489-8. The LS also recommend the removed test cases to be incorporated in relevant functional radio standards. The document was noted. See also 8.3.5.1

8.3.4.3 Others

No input.

8.3.5 Modifications of released specifications

8.3.5.1 11.21 Radio aspects

CR A134 to GSM 11.21 in **Tdoc (00)0276** correcting the Blocking and AM suppression test cases was presented by Nokia. The CR corrects some of the test signal input level for GSM 850, MXM 850 AND MXM1900. The CR number was missing on cover page. It was revised to **Tdoc (00)0365** and aggreed.

Tdoc (00)0055 contains comments to the LS from ERM/EMC in **Tdoc (00)0057** presented by Ericsson. The document was noted. It was agreed not to take any action. Delegates are asked to consider if test cases are needed to be included.

8.3.5.2 11.22 Environmental

No input.

8.3.5.3 11.23 Signalling

No input.

8.3.5.4 11.24 Transcoding

No input.

8.3.5.5 11.26 Repeater

No input.

8.3.5.6 BTS O&M specifications

No input.

8.3.6 Ongoing Technical work

8.3.6.1 Location Services (LCS)

No input.

8.3.6.2 Packet radio (GPRS)

No input.

8.3.6.3 Enhanced Data Rates for GSM Evolution (EDGE)

CR A131 to GSM 11.21 in **Tdoc (00)0029** introducing changes in subclause 7 due to EDGE and GSM 05.01 was presented by Siemens. The CR introduces alternative channels to test if TCH/MCS-5 or TCH/MCS-1 is not implemented in the BTS. Two error were found, the value for all new MCS-9 entries in tables were 0,3 dB wrong and in subclause 7.6.3 “BLER =10 %” at last line should have been deleted. In 7.5.3 it was agreed to remove the sentence “(can be ommitted if PDTCH/CS-1 is measured on the TRX)”. The document was revised to **Tdoc (00)0366** and agreed.

CR A132 to GSM 11.21 in **Tdoc (00)0053** correcting the test case for Signal Quality was presented by Ericsson. The CR corrects the propagation condition to be used in the test. An editorial error at step d) in

subclause 9.4.4.2 was found. As there was no test step d) step d) was renamed to c). The document was revised to **Tdoc (00)0367** and agreed.

CR A133 to GSM 11.21 in **Tdoc (00)0054** correcting the spurious requirements in UMTS bands was presented by Ericsson. The CR corresponds to an CR to 05.05 (05.05 CR –A163 **Tdoc (00)0030**) to approved at WG1 during this GERAN meeting. It was agreed to split the first frequency band in step b. The word UTRA BTS/UE to be changed to UTRA BTS in two places. The document was revised to **Tdoc (00)0368** and agreed.

8.3.6.4 GSM in the 450 MHz frequency band

No input.

8.3.6.5 Adaptive Multirate Codec

No input.

8.3.6.6 GERAN Release -00

No input.

8.3.6.7 BTS O&M

No input.

8.3.6.8 Technical enhancements and improvements

No input.

8.3.6.9 Other technical work

No input.

8.3.7 Delivery type of specifications

The transfer to 3GPP has the implication that any continuation of the discussion on delivery types in SMG2 need to be to forwarded to ETSI TC MSG. See also **Tdoc (00)0050**.

8.3.8 Letters to other groups

Tdoc (00)0051 is a LS informing ETSI TC SAFETY that GSM 11.22 (TR 101 075) has been revised and published as a response to JWG-TC74_L1.

8.3.9 Work plan and future meetings

The next meeting is preliminary scheduled for 6-10 November 2000. Host is still missing

The GERAN Convenor has proposed 5 meetings during 2001. Please consult the GERAN plenary report for additional information.

8.3.10 AoB

No input.

Annex A Documents to be approved by GERAN plenary

Tdoc GERAN	Title	Source
(00)0365	CR 11.21-A134r1 Correction of Blocking and AM suppression test case in GSM11.21	Nokia
(00)0366	CR 11.21-A131a1 Changes in clause 7 due to EDGE and GSM 05.01	Siemens
(00)0367	CR 11.21-A132r1 Correction of test case for Signal quality, EGPRS	Ericsson
(00)0368	CR 11.21-A133r1 Correction of spurious requirements in UMTS bands.	Ericsson
(00)0051	Proposed Liaison Statement to ETSI JWG-TC74 regarding TR 101 075	GERAN WG3 convenor

Annex B Document list

Tdoc GERAN	Title	Source	Agenda Item
(00)0004	Draft Agenda for GERAN WG3 Base Station Testing and O&M during 3GPP TSG GERAN no. 1 in Seattle	GERAN convenor	8.3.2
(00)0029	CR 11.21-A131 Changes in clause 7 due to EDGE and GSM 05.01	Siemens	8.3.6.3
(00)0049	Report from ETSI SMG2 #36 WPC	GERAN WG3 convenor	8.3.4.2
(00)0050	Numbering and status of specifications	GERAN WG3 convenor	8.3.3
(00)0051	Proposed Liaison Statement to ETSI JWG-TC74 regarding TR 101 075	GERAN WG3 convenor	8.3.8
(00)0052	Liaison Statement from ETSI ERM/EMC to TC SMG	GERAN WG3 convenor	8.3.4.2
(00)0053	CR 11.21-A132 Correction of test case for Signal quality, EGPRS	Ericsson	8.3.6.3
(00)0054	CR 11.21-A133 Correction of spurious requirements in UMTS bands.	Ericsson	8.3.6.8
(00)0055	Comments to Liaison Statement from ETSI ERM/EMC	Ericsson	8.3.5.1
(00)0057	Liaison statement to TC SMG 2; Removal of EM emission requirements from Draft EN 300 342-3 V1.2.1 (1999-12) - EMC for GSM and DCS base station equipment meeting Phase 2 and 2+ requirements	ETSI ERM	5.2, 8.3.4.2
(00)0276	CR 11.21-A134 Correction of Blocking and AM suppression test case in GSM11.21	Nokia	8.3.5.1
(00)0365	CR 11.21-A134r1 Correction of Blocking and AM suppression test case in GSM11.21	Nokia	8.3.5.1
(00)0366	CR 11.21-A131a1 Changes in clause 7 due to EDGE and GSM 05.01	Siemens	8.3.6.3
(00)0367	CR 11.21-A132r1 Correction of test case for Signal quality, EGPRS	Ericsson	8.3.6.3
(00)0368	CR 11.21-A133r1 Correction of spurious requirements in UMTS bands.	Ericsson	8.3.6.8
(00)0369	Draft Report TSG GERAN #1 WG3	Convenor WG3	9.3

Annex C Delegates list

Name	Organisation	Email
BRAGG Michael	Motorola GSD	mibragg1@email.mot.com
BUSIN Åke	ERICSSON RADIO SYSTEM AB	ake.busin@era.ericsson.se
CECCONI Giovanni	TIM	Gcecconi@mail.tim.it
KOPYTO Damian	Siemns AG	Damian.kopyto@icn.siemens.de
PITTMAN Jeff	Nokia	Jeffersson.pittman@nokia.com
SUTINEN Jukka	NOKIA	jukka.sutinen@nokia.com

Annex D Status of action points

D.1 New action points created at the WG3 meeting during GERAN#1

#1/1

Åke BUSIN to follow up mail to Graeme ALLAN (Nokia) on the update of GSM 11.22.

D.2 Previously open action points

N/A

APPENDIX 21

www.3gpp.org / ftp / Specs / archive / 04_series / 04.60

sort by name/desc	sort by date/desc	sort by size/desc
0460-003.zip	1998/07/30 10:26	57,3 KB
0460-600.zip	1998/06/10 5:44	168 KB
0460-610.zip	1998/08/12 5:51	211 KB
0460-620.zip	1998/10/22 13:30	210 KB
0460-630.zip	1999/04/12 12:11	247,6 KB
0460-640.zip	1999/07/19 7:21	275,8 KB
0460-641.zip	2000/01/07 18:10	277,4 KB
0460-650.zip	1999/11/18 8:08	300,7 KB
0460-660.zip	2000/01/10 11:01	310,1 KB
0460-661.zip	2000/07/28 9:13	362,8 KB
0460-670.zip	2000/02/21 12:25	333,2 KB
0460-680.zip	2000/05/16 12:10	337,1 KB
0460-681.zip	2000/10/24 16:08	368,2 KB
0460-690.zip	2000/07/17 13:49	323,5 KB
0460-6b0.zip	2000/11/27 10:25	348,3 KB
0460-6d0.zip	2001/05/04 13:39	365,8 KB
0460-6e0.zip	2002/07/17 14:53	359,5 KB
0460-700.zip	1999/07/19 7:21	267,1 KB
0460-701.zip	2000/01/07 17:16	265,9 KB
0460-710.zip	1999/11/15 16:20	255,4 KB
0460-720.zip	2000/01/10 11:01	276,7 KB
0460-721.zip	2000/07/28 12:02	339,2 KB
0460-730.zip	2000/02/21 12:25	282,3 KB
0460-740.zip	2000/05/16 12:10	326,4 KB
0460-741.zip	2000/10/24 16:11	343,1 KB
0460-750.zip	2000/07/17 14:17	309,2 KB
0460-790.zip	2001/05/04 13:40	343,8 KB
0460-7a0.zip	2002/07/17 14:53	337,2 KB
0460-800.zip	1999/07/19 7:20	325,7 KB
0460-810.zip	1999/11/15 14:00	294,4 KB

Petitioners' Exhibit 1006, p. 388
AT&T et al v. Innovative Sonic
IPR2024-01143

sort by name/desc	sort by date/desc	sort by size/desc
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0460-830.zip	2000/02/21 12:25	351,6 KB
0460-840.zip	2000/05/15 7:50	380,1 KB
0460-841.zip	2000/10/24 16:15	422,6 KB
0460-850.zip	2000/07/17 15:09	360,1 KB
0460-860.zip	2000/10/11 18:43	451,9 KB
0460-870.zip	2000/11/27 10:25	420,3 KB
0460-880.zip	2001/01/31 14:34	437,1 KB
0460-890.zip	2001/05/04 13:40	451,1 KB
0460-8a0.zip	2001/06/18 10:42	448,6 KB
0460-8b0.zip	2001/09/14 12:45	488,6 KB
0460-8c0.zip	2002/01/08 8:38	479,3 KB
0460-8c1.zip	2002/01/08 8:31	453,7 KB
0460-8d0.zip	2002/02/19 9:47	459,7 KB
0460-8e0.zip	2002/05/02 14:28	461,3 KB
0460-8e1.zip	2002/05/23 10:03	465,6 KB
0460-8f0.zip	2002/07/17 14:53	467,6 KB
0460-8g0.zip	2002/09/12 13:54	472,1 KB
0460-8h0.zip	2002/12/17 14:03	491,9 KB
0460-8i0.zip	2003/04/25 15:09	493,3 KB
0460-8j0.zip	2003/07/08 8:53	504,4 KB
0460-8k0.zip	2003/09/12 13:08	492,5 KB
0460-8l0.zip	2003/12/05 9:01	505,6 KB
0460-8m0.zip	2004/02/22 18:06	441,8 KB
0460-8n0.zip	2004/05/06 7:33	498 KB
0460-8o0.zip	2004/07/07 14:00	436,9 KB
0460-8p0.zip	2004/09/03 7:58	437,8 KB
0460-8q0.zip	2005/02/03 14:43	539,3 KB
0460-8r0.zip	2005/09/16 8:49	499,1 KB

59 items.

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APPENDIX 22

Title: **Approved Report of the 27th 3GPP TSG RAN meeting (Tokyo, Japan, 9 – 11 March 2005)**

Source: **3GPP support**

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Executive summary

TSG RAN meeting #27 took place in Shinjuku, Tokyo, Japan. The meeting started at 8:00 on Wednesday 9th March 2005 and finished on Friday 11th at 16:00. 116 participants were registered and 168 documents were submitted.

Elections, organizational matters and Long Term Evolution

This is the last meeting of the current TSG RAN. TSG RAN and TSG T will be closed and merged in a new TSG, named TSG RAN. It will have five WGs: the existing RAN groups plus T WG1, which will become RAN WG5.

Elections were scheduled for the chair and vice chair positions of the new TSG RAN. Having only one candidature for the chair, and after the withdrawal of two of the five candidates for vice chair, a vote was not needed for any of the positions. The list of new officials, to be confirmed by 3GPP PCG, is as follows:

Chairman		
Official	**Organization**	**Partner**
Francois Courau	Alcatel	ETSI

Vice chairmen		
Official	**Organization**	**Partner**
Don Zelmer	Cingular	ATIS
Takehiro Nakamura	NTT DoCoMo	ARIB
Hyeon Woo Lee	Samsung	TTA

There was some discussion on whether the WGs are new, given that the TSG is. The decision was postponed to the short extraordinary meeting of the new TSG RAN held on Friday 11th. The Terms of Reference of the WGs were also discussed in that meeting (See separate report)

A joint meeting of RAN WGs for the Study on Long Term Evolution of UTRA/UTRAN was held the 7th - 8th March, immediately before the TSG RAN meeting. This meeting agreed on the Work Plan of the Evolution Work, the first drafts of the requirements TR and the Study TR, and a first set requirements (section 9.10.1)

Change Requests

The approved Change Requests (CRs) to TSG RAN specifications are summarized in the following table:

Release	WG1	WG2	WG3	WG4	Total
Release 99	1			1	2
Rel-4 CRs (Rel-4 excluding Cat A)	1 (0)	2 (2)		1 (0)	4 (2)
Rel-5 CRs (Rel-5 excluding Cat A)	2 (1)	23 (22)	16 (16)	4 (3)	45 (42)
Rel-6 CRs (Rel-6 excluding Cat A)	21 (21)	61 (45)	59 (45)	19 (17)	160 (128)
Total CRs (Total excluding Cat A)	25 (23)	86 (69)	75 (61)	25 (21)	211 (174)

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Liaison Statements

ETSI MSG sent TSG RAN a LS on the issue of GSM on board aircraft, reminding that feedback to ECC is to be provided before June 2005. RAN WG4 and GERAN WG1 are currently looking at the potential interference of the embarked system to ground networks, GERAN and UTRAN. It is expected that a response to ECC will be ready for the deadline (RP-05029).

A LS was received from SA WG4 asking RAN to review the error patterns to be used for MBMS simulations. Also, it is asked that RAN WG4 and SA WG4 jointly discuss the MBMS performance requirements that are of interest of SA WG4. It is proposed to have a joint session during the RAN WG4 Ad Hoc in April. This was agreed and a communication was sent to SA WG4 (RP-050105)

ITU-R matters

ITU-R WP8F has started Question 333-1/8 on IP solutions on mobile networks, covering transport and application layers. It was agreed that 3GPP RAN will contribute with the current developments in 3GPP specifications. RAN ITU-R Ad Hoc will coordinate the process, with review and contribution of RAN WGs and also CN/SA WGs (section 8.1).

Release 99, Release 4 & Release 5

As a response to the plea for simplification of the specifications expressed in the past, several companies presented a list of features that are not used in current field implementations and unlikely to be used in the future. The group agreed to consider the removal from the specifications and tasked the WGs to study the detail and come with the necessary CRs. It was agreed that Rel99 and Rel-4 shouldn't be affected (section 8)

As a part of the clean up exercise above, the group had agreed in December to proceed with the removal of TGPL2 and had tasked the WGs to produce the CRs. These CRs were available and approved in the meeting (RP-050038).

Release 6 and beyond

See Annex D for the summary of Work Items under TSG RAN responsibility.

The Work Item **Performance Requirements of Receive Diversity for HSDPA** was completed and the last set of CRs approved (section 9.1.1.1)

The completion date of the **UMTS900** WI is delayed to December 2005 to cope with a new set of scenarios, including the rural areas with large cell radius requested by ECC (section 9.1.4 & RP-050031)

The WI Description Sheet of **UE Antenna Performance Evaluation Method and Requirements** is updated to take into account that the Methods will also be used for 2G terminals, in line with the new WI created by GERAN (section 9.1.5 & RP-050032)

The WI **Optimisation of downlink channelisation code utilisation** is completed and the CRs are approved (section 9.2.1.1)

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The WI **Optimisation of downlink channelisation code utilisation for 3.84 Mcps TDD** is completed and the CRs are approved (section 9.2.1.2.1)

A proposal was presented to remove one or more of the combining schemes in MBMS in order to reduce complexity and UE production delays. It was agreed to remove RAKE combining, but the door is still open to remove one of the two remaining options. WGs are tasked to create the necessary CRs for the clean up (RP-050130).

FDD Enhanced Uplink WIs in WG1, WG2 and WG3 were closed. Changes will be needed in the future, but will be incorporated as corrections. The WI for Performance Requirements in WG4 remains open, intended for Rel-6, and due for June 2005 (section 9.6).

It was reported that several EDCH scheduling options have been discussed for some time in WG1 and WG2, without agreement. Three proposals for a way forward were introduced, aiming at discarding some of the options. The group tasked RAN WG2 to agree on a Stage 2 where no functionalities are duplicated with different options (section 9.6.1).

TR 25.808 FDD Enhanced Uplink physical layer aspects v2.0.0 was approved and put under change control (RP-050142).

The Feasibility Study for **Uplink enhancements for UTRA TDD** was completed. A Work Item follows (RP-050019).

TR 25.804 Feasibility Study on Uplink Enhancements for UTRA TDD v2.0.0 was approved and put under change control (RP-050116)

TSG SA had requested that a justification form is provided for the WIs to be included in Rel-6 but not finished by March 2005. The following TSG RAN Items fall into this case, the corresponding forms were presented and approved (section 12):

- RAB Support enhancements
- Improved Performance Requirements for HSDPA UE cat 7 & 8
- EDCH performance requirements
- MBMS performance requirements

The following new Work Items were approved:

- 3.84 Mcps TDD Enhanced Uplink (RP-050100)
- CS and PS call setup delay improvement (RP-050162)
- Study item on Performance Evaluation of the UE behaviour in high speed trains with speeds up to 350 kmph (RP-050146)
- UE performance requirements for MBMS (TDD) (RP-050156)
- Improved support of IMS Realtime Services using HSDPA/EDCH (RP-050160)

A proposal for a WI for LCS enhancements was presented. Its motivation is to introduce the functionality in RAN that corresponds to the SA WG1 and SA WG2 Work Items on LCS for Rel-7. It was found that the proposed Sheet was not precise enough, and that the architecture enhancements in SA WG2 should be clearer in order to better frame the RAN WI. A more precise WI Description Sheet is expected in the next meeting (RP-050098)

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1 Opening of the Meeting

Francois Courau, chairman, opened the meeting at 8:10 on Wednesday 9th. He gave the floor to Yoshihide Ishida from ARIB, who welcomed the participants to Tokyo on behalf of the Japanese Friends of 3GPP and highlighted the success of 3G in Japan.
The chairman reminded that formally speaking, this is the last meeting of TSG RAN. A very short meeting of the new TSG RAN , the group that comes out of the merge of current TSG RAN and TSG T, will be held on Friday 11th after the closure of this meeting.

2 Election of officials

RP-050131 Elections: a practical guide (3GPP Support)
John Meredith (3GPP Support) presented this guide to the election procedures, to be held the 9th along the day, for both TSG RAN and TSG CT. Given the number of candidates, the process could take some time.
It is clarified that the lists of member companies for CT has been taken from TSG CN and TSG T, and the list for the new-RAN from TSG RAN and TSG T.

The attention was brought to article 22 of the Working Procedures:

> *Chairman and Vice Chairmen should not be from the same region, Organizational Partner, or from the same group of companies, unless no other candidate is available.*

RP-050132 Letters from candidates to RAN chairman and vice-chairman (3GPP Support)
For information of the group, this document contains the letters of support received for the candidate for chair, Francois Courau (Alcatel, ETSI), and the five candidates for vice chair: Denis Fauconnier (Nortel, ETSI), Alan Law (Vodafone, ETSI), Hyeon Woo Lee (Samsung, TTA), Takehiro Nakamura (NTT DoCoMo, ARIB) and Don Zelmer (Cingular, ATIS)

Election of chairman took place at 8:30. Only one candidate was presented, Francois Courau (Alcatel), current chairman. He was re-elected by acclamation.

Election of vice-chair positions were scheduled to take place in the afternoon.

The situation of the WGs was also discussed. The WG chair positions are due for election in their next meeting. Since TSG RAN is considered a new group, it has been debated if its WGs are also new or not. This impacts the election of chairmen in the WGs, since in principle it is not allowed that WG chairman apply for a 3rd period of two years. This would be the situation in WG2 and WG4, where chairmen have already covered two periods or more. However, if the WGs are new, current chairmen are allowed to apply again.
According to 3GPP PCG, it is up to each TSG to decide on this. The chairman then asked the group for views, and reminded that the Terms of Reference of the majority of WGs have changed. He noted also that being TSG RAN a new group now after the merge with TSG T, there is some logic in considering its WGs new as well.

It is noted that TSG CT is also having the same debate about its WGs, but this shouldn't influence the decision in TSG RAN.

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The chairman reminded that the WG chair position should be based on the technical competence of the person, not on political reasons. Companies should take the decision on this issue with this aim.

A show of hands gave a majority of companies supporting to consider the WGs new. However, some companies requested a more formal poll in this issue.

The discussion is postponed to the meeting of the new RAN scheduled for Friday 11th in the afternoon.

In the afternoon of Wednesday, the elections for vice chairmen were to take place. However, after heated off line discussions, two of the five candidates decided to withdraw their candidatures: Denis Fauconnier (Nortel) and Alan Law (Vodafone). This leaves three candidates for three vice chair positions, no elections are needed and all the three candidates are elected:

- Don Zelmer (Cingular)
- Takehiro Nakamura (NTT DoCoMo)
- Hyeon Woo Lee (Samsung)

3GPP PCG will have to confirm the elected persons for chair and vice chair positions.

ARIB and TTA thanked Vodafone and Nortel for their decisions, which help maintain the regional balance in 3GPP.

3 Approval of the Agenda

RP-050002 Draft agenda TSG RAN #27 (Chairman)
The agenda was approved without comments

4 Approval of the meeting report on TSG-RAN #26

RP-050003 Revised draft report TSG RAN meeting #26 (3GPP Support)
The report is approved without comments

5 Reminder for IPR declaration

The chairman made the following call for IPRs:

> The attention of the delegates to the meeting of this Technical Specification Group was drawn to the fact that 3GPP Individual Members have the obligation under the IPR Policies of their respective Organizational Partners to inform their respective Organizational Partners of Essential IPRs they become aware of.
>
> The delegates were asked to take note that they were thereby invited:
> - to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP.
> - to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Statement and the Licensing declaration forms (http://webapp.etsi.org/Ipr/).

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6 Chairman Report of meetings

6.1 TSG SA#26

The chairman reported that a long discussion took place regarding the Long Term Evolution activity, TSG SA asked to consider it as part of the ongoing SA WG1 activities on Evolution. The agreement was to consider all these activities closely linked, SA WG2 will be involved in the architecture part of the UTRAN LTE.

6.2 New Terms of reference for RAN WGs after TSG RAN Re-organization

RP-050051 Review of RAN1 Terms of reference (RAN WG1)
Dirk Gerstenberger (RAN WG1 chairman) presented this document
Howard Benn (RAN WG4 chairman) noted that the LT Evolution activity will pose new burden in WG1 and, looking at how the measurements are developed today, he proposed to envisage in the mid term to move the specification of provision of measurements to upper layers to WG4, and WG2 in part.
According to Dirk however, the current work split is correct, WG1 should be in charge of defining the measurements and WG4 should look at the accuracies.

Jussi Numminen (Nokia) reminded that in the past WG4 has spent much time reviewing and correcting the measurements previously developed in WG1, it is worth reconsidering now the work split. Concerning the modification proposed by RAN WG1 in this document (to add the physical layer parameters used in conformance testing), he noted that so far the work of WG1 in this area has been low and reduced to the definition of the bearers, it is mostly WG4 who liaises with and guides T WG1 on the testing issues; including physical layer parameters.

Given the terms of the discussion, Hans van der Veen (NEC) suggested to re-consider the merge of WG1 and WG4. The chairman acknowledged that this is not viable at this time, but he expected that the LT Evolution work will push the two groups to work closer and in a more coordinate manner.

RP-050063 Proposal of Update of RAN WG2 terms of Reference (RAN WG2)
This document was briefly presented, a revision of RAN WG2 ToR was produced among the WG chairmen and presented to the new TSG RAN.

It was agreed that the ToRs of WGs will be reviewed all together in an Ad Hoc session with the participation of all the WG chairmen, also WG5 chairman. The outcome of this Ad Hoc will be discussed in the meeting of the new TSG RAN on Friday afternoon.

7 Liaisons from other groups

7.1 Groups outside 3GPP

RP-050028 LS from Q.1/19 to SDOs (ITU-T (Q1/19 Rapporteur))

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ITU-T informs that it has started developing a recommendation on Network Architecture for Systems Beyond IMT-2000, and asks for related documentation. This involves mainly the Core Network, no actions for TSG RAN.

RP-050029 LS on Use of GSM BS on board aircraft (ETSI MSG)
ETSI MSG reminds of the timeline for the work on this issue in ECC (June 2005) and asks GERAN WG1 and RAN WG4, the 3GPP groups involved in the impact analysis, to comment back.
Howard Benn (RAN WG4 chairman) reported that the group is reviewing the documentation presented by SITA, the organization developing the system, and has already provided some observations. The work will continue in next WG4 meeting.

The chairman asked companies from other regions to inform if similar activities are ongoing, this is the right moment to ensure that a common approach is adopted. Since aircraft equipped with this system would probably fly over other regions it is in everyone's interest to get a common worldwide agreement.

The chairman clarified that the contribution to be expected from 3GPP are on the technical field, the political aspects of the discussion in ECC are neither in 3GPP nor MSG scopes.

Hashem Madadi (Three) requested that WG4 endeavours to produce the technical output within the timeline required. Howard noted that measurements onboard planes are required, and this is not something that WG4 experts can do. The group is working with the information received as efficiently as possible.
It was further clarified that WG4 is looking at the interference that the embarked jammer would produce on ground networks. Since this jammer is supposed to stop UEs on board from receiving signals from ground based networks, it will also have to jam UMTS frequencies. There is a risk that this jamming interferes with the ground UMTS networks, hence the interest of RAN WG4.

Since RAN WG4 is already working on this issue, there is no specific action for TSG RAN.

RP-050030 Sharing and compatibility studies for UMTS in 900 MHz band (ECC PT1)
ECC PT1 asks to consider additional scenarios in the UMTS900 work, rural areas with large cell radius in particular. This LS has already been presented in RAN WG4 and the group has agreed on a number of new scenarios as explained in the LS below.

RP-050031 LS on Additional simulation scenarios for UMTS900 (TSG RAN WG4)
WG4 has identified some additional scenarios, including those proposed by ECC PT1. Given the increase in the scope of the Work Item, it is envisaged that the work will take longer and RAN WG4 proposes to delay the conclusion date to December.
This LS is addressed to ECC PT1; following the practice of ECC, TSG RAN chairman will send it personally to ECC PT1 chairman
It is clarified that the 577m cell radius of scenario 1 is the current assumption in WG4 for uncoordinated deployment.

7.2 TSG SA, TSG T, TSG CN, TSG GERAN

RP-050032 LS on Antenna Performance Evaluation Method and Requirements (TSG GERAN)

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GERAN informs that it has started a WI on Antenna Evaluation, similar to the WI underway in RAN WG4. Given the commonality on the measurement methods, GERAN has agreed to re-use the TR to be produced in RAN WG4. GERAN asks that the wording of the TR is adapted to allow applicability to 2G terminals.
RAN WG4 has reviewed and agreed with this request. A revised WI Description Sheet is presented to TSG RAN for approval (RP-050122)

RP-050033 Misalignment amongst the 3GPP specifications, "Re-authentication and key set change during inter-system handover" (TSG CN WG1)
CN WG1 has concluded that the inter-system handover from GERAN to UMTS procedures after re-authentication (i.e. 'late AKA') would always fail, if the handover occurred before the new keys were taken into use. Since this a rare event, CN WG1 agreed to correct it in Rel-5 onwards.
This affects 25.331, but RAN WG2 had declined to align because to introduce this change now would lead to many UEs which are using the current version of the specifications to suffer more problems whenever the proposed behaviour will occur.

In order to show the RAN understanding, it was suggested to forward to TSG SA the LS from RAN WG2 where the arguments are presented; this will allow TSG SA to decide having all the views on the table.

It was also agreed to task TSG SA WG3 to make the decision and inform the relevant groups of their decision.

RP-050034 LS on network-initiated SCUDIF support (TSG CN WG3)
CN WG3 asks RAN WG3 to approve CRs implementing only the part of their proposal for network-initiated SCUDIF support that relates to a downgrade to an alternate configuration with lower bandwidth requirements.
No action required from TSG RAN.

RP-050105 Reply to "Reply LS on guidance and error patterns for MBMS streaming simulations" (TSG SA WG4)
SA WG4 asks TSG RAN to request RAN WG4 to discuss the issue of the error patterns jointly with SA WG4 in its Ad Hoc in April. Also, TSGs RAN and GERAN to review and provide feedback on link level PDU error masks and RTP packet loss simulator.
Howard Benn (RAN WG4) chairman noted that the group has only recently agred simulation assumptions and hence has not been able yet to work on the error patterns. In order to speed the work, he agreed to have SA WG4 experts in the MBMS Ad Hoc, and he suggested that documentation from SA WG4 is circulated in RAN WG4's MBMS reflector in advance.
Howard also requested that feedback on the decision on the FEC that TSG SA will adopt in its meeting next week is circulated for RAN experts.

Paolo Usai (SA WG4 secretary) clarified that the error masks provided in the LS are just examples and not the comprehensive set.

SA WG4 participants are encouraged to come to the Ad Hoc in order to advance in this issue.
Document RP-050153 below will be forwarded to SA WG4 to ask for participation.

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7.3 TSG RAN WGs

RP-050035 LS on ROHC testing (TSG RAN WG2)
RP-050036 LS on ROHC testing (TSG T WG1)
This two LSs are for information to TSG RAN and are noted

The following table summarizes the LSs received:

Tdoc	Title	Source	Source File
RP-050028	LS from Q.1/19 to SDOs	ITU-T (Q1/19 Rapporteur)	COM19-LS004
RP-050029	LS on Use of GSM BS on board aircraft	ETSI MSG	M-05-015
RP-050030	Sharing and compatibility studies for UMTS in 900 MHz band	ECC PT1	ECC PT1(05)051_Annex20
RP-050031	LS on Additional simulation scenarios for UMTS900	TSG RAN WG4	R4-050282
RP-050032	LS on Antenna Performance Evaluation Method and Requirements	TSG GERAN	GP-050541
RP-050033	Misalignment amongst the 3GPP specifications, “Re-authentication and key set change during inter-system handover”	TSG CN WG1	N1-050270
RP-050034	LS on network-initiated SCUDIF support	TSG CN WG3	N3-050151
RP-050035	LS on ROHC testing	TSG RAN WG2	R2-050296
RP-050036	LS on ROHC testing	TSG T WG1	T1-050491
RP-050105	Reply to “Reply LS on guidance and error patterns for MBMS streaming simulations”	TSG SA WG4	S4-050214

8 Status Report and Approval of contributions on Release'99 and Release 4 and finished work items for Release 5

RP-050125 Feature clean up (Nokia, Motorola, T-Mobile, Ericsson, Panasonic, NTT DoCoMo, Qualcomm, Telecom Italia)
RP-050141 Feature removal CRs (Nokia)
Jussi Numminen (Nokia) presented this proposal to remove the list of features below. A set of CRs for discussion is presented in document RP-050141.

- 80 ms TTI for DCH
- SSDT
- TGPL2
- Observed time difference to GSM cell
- Support of dedicated pilot as sole phase reference
- Tx diversity closed loop mode2
- DSCH
- DRAC

Qualcomm also noted that compress mode by puncturing had also been discussed for possible elimination.
Jussi clarified that only DSCH in FDD is proposed to be removed.
Many companies suggested that CPCH could be added to the list.

On the Release of application, Jussi preferred that companies discuss and analyse off line the relevant Release. Hashem Madadi (Three) required that R99 and Rel-4 are not affected by this activity. However, the chairman clarified that if these changes do not affect existing

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implementations, there is no reason why they cannot be incorporated to R99 or Rel-4; it is only up to the companies to check in house to what extent the removals affect their existing products.

NEC and Fujitsu supported Three and requested that the removals at least will not apply to R'99 and Rel-4. There was general agreement with this position and to go for Rel-5.

A revision of RP-050125 is provided in RP-050144 adding to the list the features mentioned.

RP-050144 Feature clean up (Nokia, Motorola, T-Mobile, Ericsson, Panasonic, NTT DoCoMo, Qualcomm, Telecom Italia)
This is the outcome of the off line session on feature clean up. CPCH and compressed mode by puncturing are added to the list.
It is agreed that the removal would be Rel-5 onwards.
The support of 80ms TTI is only required when supporting SF512 in the terminal. In all other cases 80 ms TTI for DCH support is removed.
It is agreed to go ahead with the removal of TGPL2 in this meeting, given that the CRs are available. CRs for removal of the other features will be presented in next TSG RAN, with separate discussion on the WGs.

It is suggested that the discussion at WG level starts in the WG email reflectors, with the thread clearly identified in the email subject. The aim is to reach as much agreement as possible before the meetings to speed the decision on the CRs. Nokia will take the lead on this activity.

8.1 ITU-R Ad Hoc

Giovanni Romano (TelecomItalia) presented the three documents related to ITU-R.

RP-050102 Status Report ITU-R Ad Hoc (ITU-R Ad Hoc Contact person)
Giovanni clarified that the discussions on IP solutions was not related to the choice between IPv4 and IPv6, but to providing IP services to mobile users. Concerning the SDR report in ITU-R, no comment was raised in RAN plenary

RP-050104 Proposal for the development of a contribution for ITU-R WP8F on IP solutions (ITU-R Ad Hoc)
Regarding the activity in ITU-R on IP over mobile systems, it is suggested that TSG RAN provides a contribution from the 3GPP work on IP in the UTRAN.
Steve Blust (Cingular) clarified that the scope of the ITU-R question 223-1/8 covers services but also the use of IP on lower layers and noted that the documents produced by MCC with the description of each Release could be used for this purpose.
Given the scope, the contribution requested from 3GPP will need to be contributed by TSG SA and TSG CN as well, not only TSG RAN. However, the chairman noted that most likely what WP8F needs is not a very technically detailed document, but a rather marketing-oriented material.

As a way forward, it is agreed that the ITU-R Ad Hoc will produce a document that will be checked by the WGs (deadline 4th April, so it can be input to the WGs meeting the first week of April). Comments from the WGs should be produced before the 5th May.

It is observed that CT and SA WGs should also review and contribute, the document from ITU-R Ad Hoc will be also made available to them.

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The approval process by the different TSGs will be done in parallel before the sending to the PCG for final approval and submission to ITU-R 8/F on the 27Th of May 2005.

Based on that the following calendar was approved:
- Sending to the different working groups for review First week of April for comments Before May 5th 2005
- Elaboration of the final draft first week of May for sending to the TSG exploder on May 13thth 2005
- End of the approval period by TSG on May 17th 2005 and sending to the PCG exploder
- End Approval by the PCG on May 25th.

TSG RAN Chair will present the ITU-R liaison to the two TSGs during their current meetings in Tokyo.

After presentation to the TSG CN, TSG CN delegates supported the schedule.

RP-050103 Proposed Update reminder for the OPs on the compliance with ITU-R procedures as it relates to Revision 5 of Recommendation ITU-R M.1457 (ITU-R Ad Hoc)

No comments, the document is approved.

8.2 TSG RAN WG1

8.2.1 Report from WG1 including report on actions required from the previous meeting

RP-050020 Status Report WG1 (RAN WG1 Chairman)

Dirk Gerstenberger (RAN WG1 chairman) presented this report. RAN WG1 activity can be summarized as follows:
- One meeting: RAN1#40 Feb 14-18 2005 Scottsdale, AZ, USA
- Agreed change requests
  - 1 CR for R99 FDD (TEI), 1 CR for Rel5 FDD (TEI)
  - 19 CRs for Rel6 FDD (TEI6, Enhanced UL, F-DPCH)
  - 3 CRs for Rel6 TDD (LCR TDD, TDD Code optimisation)
- FDD Enhanced Uplink stage 3 progressing well
  - Joint session with RAN WGs on RRM concept and worksplit
  - 5 UE categories agreed
  - Timing relations and number of HARQ processes agreed
  - Total of 10 CRs on the L1 specifications on various details
- MBMS UE capability definition agreed
  - LS sent to RAN2 for incorporation into a CR for 25.306
- Code optimisation CRs for FDD and 3.84Mcps TDD agreed
  - F-DPCH (FDD) and HS-DSCH without DL DPCH (TDD)
- TDD Enhanced Uplink Study item completed

On the Fractional DPCH, Dirk clarified that it will be mandatory for Rel-6 HSDPA UEs.

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RP-050021 List of CRs from RAN WG1 (RAN WG1)
This list is provided for information

8.2.2 Discussions on decisions from WG1

No discussions

8.2.3 Approval of CRs to Rel'99 with linked CRs to Rel-4, Rel-5 & Rel-6

RP-050092 CR(Rel-6 Category F) to TS25.215 for Clarification of the cell on SFN-SFN observed time difference (RAN WG1)
No comments, the CR is approved

RP-050093 CR for TS25.215 R99, Rel4, Rel-5 Clarification of the cell on SFN-SFN observed time difference (Panasonic)
NEC & Three objected the approval of R99 and Rel-4 CRs unless they implement essential requirements. Motorola noted that the reason of the R99 CRs is the clarification for T WG1 for the development of the tests. Finally, the CRs are approved

Note: The CR number in the coversheet of the Rel-5 CR in document RP-050093 is not correct; it is #158 instead of #156

8.2.4 Approval of independent CRs to Rel-4 with linked CRs to Rel-5 & Rel-6

No contributions

8.2.5 Approval of independent CRs to Rel-5 with linked CRs to Rel-6

RP-050094 CR (Rel-5 Category F) to TS25.214 for Correction to computed gain factors quantization (RAN WG1)
Sudeep Palat (Lucent) objected this CR on the basis that it is not an essential correction for Rel-5 and in his view the benefits haven't been sufficiently proved.
Edgar Fernandes (Motorola) noted that the CR is in contradiction with TS25.101 where it is required that the beta factors are round values.
It was suggested to review the CR in WG1 on the light of the contradiction raised. However, Dirk Gerstenberger (RAN WG1 chairman) noted that Lucent's objection will most likely remain hence he proposed to reject the CR completely and to focus on the beta factors quantization discussion for Rel-6.

As a conclusion, Lucent is asked to present the objections in RAN WG1, and RAN WG4 is tasked to review the current proposal and check for possible incompatibilities.

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8.2.6 Approval of linked CRs where the leading one originated from WG1

No contributions

8.3 TSG RAN WG2

8.3.1 Report from WG2 including report on actions required from the previous meeting

RP-050145 Status Report WG2 (RAN WG2 Chairman)
Denis Fauconnier (RAN WG2 chairman) presented this report. RAN WG2 activity can be summarized as follows:

- Release 99 corrections
  - Occupied 0,25 day of last Quarter only
- Release 4 corrections
  - Very minor
- Release 5
  - Few corrections
  - Results from a long activity on cell selection/re-selection
- Release 6
  - MBMS
    - Progress on the Stage 2: Corrections to the counting scheme in RRC connected states, Probably now close to being final
    - Stage 3 corrections, Good progress in conference calls held prior to RAN2 meetings
  - HSUPA
    - Good progress in January, but February did not achieve its goals, and it became clear that the past agreements lead to more divergence between various scheduler operations
    - Joint meeting with RAN1, RAN3 and RAN4 on RRM aspects, showing that the subject had been neglected
    - Many contentious points on the Stage 2, Completion slipped by one quarter
    - 2Q05 will have to prove as efficient as 4Q04, Much more work outside of meetings to progress (e-mails, conf calls)
    - Reduction of options is the target for the coming quarter, with Stage 2 completion
    - Stage 3 should be fast after Stage 2 is completed
  - IMS
  - ACBOP
  - TEI6
  - WI under other WGs
- Release 7
  - UTDOA

It was noted that among the many topics being dealt under TEI6 there is the default RAB set up configuration, Denis clarified that significant agreement has been reached and by June the CRs will be ready.

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Per Beming (Ericsson) asked for more clarity on the issues that are going to be included in TEI6 for June. Denis explained that priority will be given to the topics that have been on already submitted. To Per, there is a risk of delaying the Rel-6 because of these items.

RP-050023 List of CRs from RAN WG2 (RAN WG2)
This list is provided for information

8.3.2 Discussions on decisions from WG2

RP-050124 Mandatory features reliability assurance (Nokia)
Jussi Numminen (Nokia) presented this document
This document discusses the current requirements for mandatory features. It highlights the advantages/disadvantages of making a given feature mandatory, but it does not concentrate on the need for mandatory features as such, but suggests a way of taking commercial pressures into account.
Vodafone commented than rather than a reliability flag, it would be better to clarify what features are mandatory, and will be tested and implemented by all, what features are optional.

TMobile also noted that there are already a number of possibilities that could be used for this purpose, like the Early UE flag. Also the ongoing initiative to reduce the number of options goes along the same line. More time should be spent in 3GPP looking at the links between features and the complexity issues, and on deciding what features are mandatory. Other companies also supported this view.

8.3.3 Approval of CRs to Rel'99 with linked CRs to Rel-4 , Re-5 & Rel-6

RP-050064 25.993 CR (R'99 affected, Rel-6 version) on Addition of asymetric RAB combinations with voice (RAN WG2)
No comments, the CRs is approved

8.3.4 Approval of independent CRs to Rel-4 with linked CRs to Rel-5 & Rel-6

RP-050065 25.306 CRs to Rel-4 (with linked Rel-5 and Rel-6) on the support of DSCH (RAN WG2)
RP-050066 25.331 CRs to Rel-4 (with linked Rel-5 and Rel-6) on OTDOA Correction (RAN WG2)
No comments, the CRs are approved

8.3.5 Approval of independent CRs to Rel-5 with linked CRs to Rel-6

The CRs in the documents below, source RAN WG2, were approved without comments:

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Document	Title
RP-050067	25.301, 25.306, 25.323, 25.331 CRs to Rel-5 (and Rel-6) on Lossless Downlink RLC PDU Size Change
RP-050068	25.322 CRs to Rel-5 (and Rel-6) on the removal of the EPC mechanism
RP-050069	25.331 CRs to Rel-5 (and Rel-6) – 1
RP-050070	25.331 CRs to Rel-5 (and Rel-6) – 2
RP-050071	25.993 CR (Rel-5 affected, Rel-6 version) on AMR-WB Reference RAB Configurations
RP-050073	25.304 CRs to Rel-5 (and Rel-6) on Cell Reselection (HCS and non-HCS)

RP-050072 CRs to Rel-5 (and Rel-6) on Cell Reselection (RAN WG2)
These CRs are revised in the document below

RP-050128 CRs (Rel-5 & Rel-6) to 35.304 & 25.331 for the Correction to cell selection and reselection parameters to enable enhanced cell reselection (NTT DoCoMo)
The category of the Rel-6 CRs should be B, this will be changed in 3GPP CR Database
The CRs were approved

8.3.6 Approval of linked CRs where the leading one originated from WG2

No contributions

8.4 TSG RAN WG3

8.4.1 Report from WG3 including report on actions required from the previous meeting

RP-050024 Status Report WG3 (RAN WG3 Chairman)
Alexander Vesely (RAN WG3 chairman) presented this report. RAN WG3 activity can be summarized as follows:

- RAN3 agreed CRs:
  - no R99 / Rel-4 CRs
  - 14 Rel-5 CRs (cat. F)
  - 58 Rel-6 CRs (14 cat.A, 24 cat.F, 11 cat.B, 4 cat.D, 5 cat.C) including CRs for MBMS (8), E-DCH (4), F-DPCH (5), RET (18)
  - Complete list of CRs in RP-050025
- RAN3 technically endorsed CRs:
  - CRs for TGPL2 removal
  - CR on MBMS Time Alignment
- MBMS: refinement of stage 3, network synchronisation
- E-DCH: refinement of stage 3 (ASN.1), Frame Protocol
- E-DCH/HSDPA Iur/Iub Congestion Control
- fractional DPCH: stage 3 finalised
- RET: further correction work, adhoc in April
- beamforming: enhancements for HSDPA
- TEI-6 work on network initiated SCUDIF (now in line with CN3) and other topics

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Concerning the new TR for Iub/Iur for congestion control (slide 14), Alexander clarified that most of the work will be carried out off line by Vodafone, with little load in the meetings. He clarified also that the intention is not to select algorithms.

RP-050025 List of CRs from RAN WG3 (RAN WG3)
This list is provided for information

8.4.2 Discussions on decisions from WG3

No contributions

8.4.3 Approval of CRs to Rel'99 with linked CRs to Rel-4 , Rel-5 & Rel-6

No contributions

8.4.4 Approval of independent CRs to Rel-4 with linked CRs to Rel-5 & Rel-6

No contributions

8.4.5 Approval of independent CRs to Rel-5 with linked CRs to Rel-6

The CRs in the documents below, source RAN WG3, were approved without comments:

Document	Title
RP-050052	CRs (Rel-5 and Rel-6 category A) to TS 25.415 and TS 25.413
RP-050053	CRs (Rel-5 and Rel-6 category A) which affect TS 25.423 and TS 25.433
RP-050054	CRs (Rel-5 and Rel-6 category A) to TS 25.427, TS 25.423 and TS 25.433
RP-050055	CRs (Rel-5 and Rel-6 category A) to TS 25.453

8.4.6 Approval of linked CRs where the leading one originated from WG3

No contributions

8.5 TSG RAN WG4

8.5.1 Report from WG4 including report on actions required from the previous meeting

RP-050026 Status Report WG4 (RAN WG4 Chairman)
Howard Benn (RAN WG4 chairman) presented this report. RAN WG4 activity can be summarized as follows:

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- 1 RAN WG4 meeting after the last RAN meeting
- Joint adhoc held with RAN 1/2/3 on EUL Node B RRM
- Usual number of delegates (around 80)
- 285 input contributions, 30% increase
  - But increase is greater due to very few cat A CRs
- Corrections to the specification (cat B & F numbers)
  - Release 99 - 1 CRs
  - Release 4 - 0 CRs
  - Release 5 - 1 CRs
  - Release 6 – 15 CRs
- 2 technically endorsed R99 CRs
- There will be one WG meeting before the next plenary
- An Ad Hoc on MBMS/EDCH is scheduled for 4 – 6 April, location to be decided.

Nokia, Telecom Italia and Ericsson expressed clear preference to hold the Ad Hoc in Sophia Antipolis. It is clarified that the scope of the Ad Hoc is simulation work, not RRM issues. Additionally, and regarding the joint session with SA WG4, some companies found unclear what would be its subject and objective. For Howard, the intention of the joint session is to provide guidance and education to SA WG4 on the issue of the error patterns.

The chairman proposed as an alternative that SA WG4 delegates should be invited to the full Ad Hoc, to get a better understanding of the process in WG4. In principle, the EDCH part is of no interest to SA WG4 participants, but they could find useful the entire MBMS session.

Howard clarified that the fact of inviting SA WG4 doesn't mean that the scope of the MBMS Work Item in RAN, notably the scope of the simulations, would be modified to take into account additional simulations to cover SA WG4 needs. If this is requested, it will have to be decided by TSG RAN and the WI Description Sheet will have to be modified accordingly.

It was proposed that a liaison to inform TSG SA of this joint meeting should be drafted indicating that this is important for SA4 delegates to participate and request involved companies to ensure that they will send delegates to the dedicated session. See document RP-050153.

RP-050027 List of CRs from RAN WG4 (RAN WG4)
This list is provided for information

8.5.2 Discussions on decisions from WG4

No discussions

8.5.3 Approval of CRs to Rel'99 with linked CRs to Rel-4 , Rel-5 & Rel-6

RP-050037 CRs (R99 & Rel-4/Rel-5/Rel-6 CatA) to 25.133 for the Correction of DPCH_Ec/Ior level in Annex 7 (RAN WG4)
No comments, the CRs are approved

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8.5.4 Approval of independent CRs to Rel-4 with linked CRs to Rel-5 & Rel-6

No contributions

8.5.5 Approval of independent CRs to Rel-5 with linked CRs to Rel-6

RP-050039 CRs (Rel-5 &Rel-6 CatA) to 25.101 on corrections to the HS-DPCCH time mask requirements (RAN WG4)

No comments, the CRs are approved

8.5.6 Approval of linked CRs where the leading one originated from WG4

RP-050038 Endorsed CRs (R99 & Rel-4/Rel-5/Rel-6 CatA) to 25.101, 25.133, 25.215, 25.331, 25.423, 25.433 for the removal of TGPL2 (RAN WG1, WG2, WG3, WG4)

After the discussion on feature clean up, the R99 and Rel-4 CRs are rejected and Rel-5 and Rel-6 CRs are approved. The categories will be corrected in the CR data base to make the Rel-5 and Rel-6 CRs Cat C and not Cat A.

Hans van der Veen (NEC) made clear that NEC has no objection against the removal, as long as it is clear that the exact way of removal of TGPL2 is not taken as a model on how all other features will be removed.

9 Release 6 and beyond: Status update and approval of CRs, reports

It was agreed in TSG SA #26 that for all Work Items intended for inclusion in Rel-6 but not concluded in March a justification for needs to be produced and presented in TSG SA. This is implemented via a form containing a brief description of the pending work. The template can be found in document RP-050149.

9.1 Radio Interface Improvement Feature

9.1.1 Improved Receiver Performance Requirements for HSDPA

9.1.1.1 Performance Requirements of Receive Diversity for HSDPA

RP-050004 Status Report for WI Performance Requirements of Receive Diversity for HSDPA (NTT DoCoMo)

Takehiro Nakamura (NTT DoCoMo) presented this report
The WI is complete with the CRs below.

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RP-050040 CRs (Rel-6) to 25.101 for the WI improved performance requirements for HSDPA UE with RX diversity (RAN WG4)
The CRs are approved without comments

9.1.1.2 Performance Requirements for HSDPA UE categories 7 & 8

RP-050005 Status Report for WI Improved minimum performance requirements for HSDPA UE categories 7 & 8 (Nokia)
Jussi Numminen (Nokia) presented this report
The WI is on progress and scheduled for completion in June 2006. Since this WI is intended for Release 6, a Late Submission form will have to be filled and presented to TSG SA.

9.1.2 UMTS2600 for FDD

RP-050006 Status Report for WI UMTS 2.6GHz (Nokia)
Jussi Numminen (Nokia) presented this report
Jussi clarified that the new UE power class comes from the discussion on the possibility of having UE with a single duplexer to handle the additional DL, and this will have an impact on UE power. A proposal to cope with this the definition of a new UE power class.

RP-050087 25.331 CR to Rel-6 on additional frequency bands (RAN WG2)
No comments, the CR is approved.

9.1.3 UMTS2600 for TDD

RP-050007 Status Report for WI UMTS 2.6GHz TDD (IPWireless)
Derek Richards (IPWireless) presented this report
It is corrected that the "no changes had been agreed to 25.105" statement in the report is incorrect. Concerning the request for clarification on the TDD option applicable to this WI, the chairman commented that independently of the regulatory decision in Europe, it should be taken into account that the band will be used for IMT2000 in other parts of the world, the WI shouldn't be restricted to an option. It was clarified that this WI was approved aligning with the FDD counter part and based on European regulatory requirements, and in principle restricted to the 3.84Mcps.

Having this in mind, it is asked that the WI Sheet is clarified to make clear that it applies to Region 1, but it was further observed that it is clear enough now.

Regarding the TDD option, it is agreed that if no contributions on 1.28 Mcps are presented in WG4, the WI Description Sheet should be modified to make clear that it only applies to 3.84 Mcps.

Regarding the question of guard bands raised in the report, Derek requested that WG4 is asked to spend some time on deciding on what guard band possibilities might be used. Howard Benn (RAN WG4 chairman) clarified that it is the regulatory bodies that decide on guard bands, as it is clearly written in the WI Sheet. However, the chairman reminded that the decision in the regulatory bodies will be based in inputs from the technical committees, notably in the case of Europe ETSI ERM RM. He suggested IPWireless to bring the discussion there.

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9.1.4 UMTS 900

RP-050008 Status Report for WI UMTS 900 (Nortel)
Evelyn Lestrat (Nortel) presented this report
No comments, the completion date is moved from September 2005 to December 2005.

9.1.5 UE Antenna Performance Evaluation Method and Requirements

RP-050009 Status Report for WI UE Antenna Performance Evaluation Method and Requirements (TeliaSonera)
Per Ernstrom (TeliaSonera) presented this report.
The WI Description Sheet needs to be revised to take onboard the GERAN WI.

RP-050122 Revised WID for the work item: UE Antenna Performance Evaluation Method and Requirements (TeliaSonera/RAN WG4)
Per Ernstrom (TeliaSonera) presented this revised WIDS.
The new Sheet is approved, the chairman will bring it to the attention of TSG SA for coordination with GERAN.

9.2 RAN Improvement Feature

9.2.1 Radio access bearer support enhancement

RP-050010 Status Report for WI RAB support enhancement (Nokia)
Benoist Sebire (Nokia) presented this report
The WI is to be kept in Rel-6, the late inclusion form is needed for TSG SA.
It is noted that the completion level is the same as 3 months ago, Benoist explained that this is due to additional issues that have appeared in the meantime.

RP-050083 25.306 CR to Rel-6 on the support of ROHC mandatory (RAN WG2)
It was noted that all CRs to WI should be approved together, to avoid having to modify it when the rest of the CRs are introduced.
Jussi Numminen (Nokia) reminded of the discussion in last plenary where it was discussed that Rel-5 and Rel-6 terminal should be able to support the same ROHC, with the approval of this CR is cannot be ensured that Rel-5 terminals will operate in the same manner. Denis Fauconnier (RAN WG2 chairman) clarified that the request from Jussi can be achieved if the tests and performance requirements for ROHC are included starting in Rel-5. New TSG RAN WG5 will be informed.
The CR is approved

9.2.1.1 Optimization of downlink channelization code utilization (FDD)

RP-050011 Status Report for WI Optimisation of downlink channelisation code utilisation (Nortel)
Evelyn Lestrat (Nortel) presented this report

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Antti Toskala (Nokia) reminded of a couple of open points and asked if the intention is to close the WI.
Edgar Fernandes (Motorola) questioned the approval of the RAN WG1 & WG2 CRs given the status of the work in WG4, where the study may conclude on the need to change WG1 or WG2 agreements, notably in power control and synchronization aspects.
Other companies preferred to have CRs implemented now in order to have stable specifications as soon as possible. Regardless of eventual feedback coming from WG4, the WI is functionally stable in the other groups. Later modifications can be considered corrections
There was a long debate on this, Howard Benn (RAN WG4 chairman) reminded that rule is to have all the CRs under a WI approved at the same time. Since this is a single WI covering the work in all groups, and what WG4 produces may have an impact on the CRs of the other groups, Howard requested that rules are observed.
Edgar Fernandes (Motorola) noted that there is the wrong assumption that the result of the work of WG4 is only performance requirements, it has already happened in the past that the analysis in WG4 discovers that some of the assumptions made in other groups are incorrect, with the unfortunate conclusion that CRs already approved had to be changed. It would certainly be a better approach if the other groups hold the inclusion of the CRs until WG4 has checked the feasibility of some of the assumptions.

As a conclusion, Edgar agreed to approve these CRs but requested that in the future RAN WG4 is involved earlier in the process. Core requirements in WG4 should be completed in RAN WG4 at the same time.

It is agreed that the WI can be considered closed, noting that the performance aspects will be finished later. The CRs in the three documents below are approved:

Document	Title	Source
RP-050056	CRs (Rel-6 category B) for the introduction of fractional DPCH in RAN3 specifications	RAN WG3
RP-050074	25.302 and 25.331 CRs Rel-6 on the introduction of Fractional DPCH	RAN WG2
RP-050088	Linked CRs (Rel-6 Category B) to TS25.211 & TS25.212 & TS25.213 & TS25.214 & TS25.215 for Introduction of F-DPCH	RAN WG1

9.2.1.2 Optimization of channelization code utilization for TDD

9.2.1.2.1 Optimization of Channelisation Code Utilisation for 3.84 Mcps TDD

RP-050012 Status Report for WI Optimisation of channelisation code utilisation for 3.84 Mcps TDD (IPWireless)

Derek Richards (IPWireless) presented this report
Derek clarified that RAN WG1 had already taken a decision on the methods/procedures for out of sync detection, the wording of the report is unfortunate.
Concerning RAN WG4, it is unclear yet that a requirement for the out of sync is needed or not; this WI has not been presented there.

It is clarified that since this WI is removing the DL DPCH, it is already covered in the RAN WG3 specifications; no work is needed in that group.

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It was clarified off line that the impact in WG4 is very small, it was hence agreed to go ahead with the CRs and to consider the WI closed.

RP-050089 Linked CRs (Rel-6 Category B) to TS25.221 & TS25.224 & TS25.302 & TS25.331 for Release 6 HS-DSCH operation without a DL DPCH for 3.84Mcps (RAN WG1, WG2)

The CRs are approved.

9.2.1.2.2 Optimization of Channelisation Code Utilisation for 1.28 Mcps TDD

RP-050013 Status Report for WI Optimisation of channelisation code utilisation for 1.28 McpsTDD (IPWireless)

Derek Richards (IPWireless) presented this report.
The feasibility of the completion date was questioned, Derek agreed that it is probably too optimistic, but preferred to make the formal change if needed in the next meeting, once that the concerns raised in smart antennas are solved.

The rapporteur has changed to Ka Leong Lo from UTStarcom

9.2.2 RRM optimizations for Iur and Iub

No report

9.3 UE Positioning

9.3.1 Inclusion of Uplink TDOA UE positioning method in the UTRAN specifications

RP-050014 Status Report for WI Inclusion of Uplink TDOA UE positioning method in the UTRAN specifications (TruePosition)

Robert Gross (TruePosition) presented this report.
It was noted that the level of completion hasn't progressed since last meeting. Robert noted that work has progressed, but also some additional issues have appeared in the meantime.

9.4 Introduction of the Multimedia Broadcast Multicast Service (MBMS) in RAN

This WI is closed for RAN WG1, WG2 and WG3 work.
The CRs in the documents in the table below were approved without comments:

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Document	Title	Source
RP-050057	CRs (Rel-6 category F) for MBMS in RAN3 specifications	RAN WG3
RP-050075	25.301 CR (Rel-6) on the introduction of MBMS	RAN WG2
RP-050076	25.302 CR (Rel-6) on the introduction of MBMS	RAN WG2
RP-050077	25.304 CR (Rel-6) on MBMS scope (wording)	RAN WG2
RP-050078	25.321 CR (Rel-6) on MBMS MAC header	RAN WG2
RP-050079	25.331 CRs (Rel-6) on MBMS Corrections	RAN WG2
RP-050080	25.346 CRs (Rel-6) on MBMS (Stage 2)	RAN WG2
RP-050082	25.322 CR to Rel-6 on the inclusion of Transmitter Constraints	RAN WG2

RP-050148 CR 1090r2 to 25.433 on Time alignment in MBMS transmission channels (Siemens)

Alex Vesely (Siemens) presented this CR
Edgar Fernandes (Motorola) reported the comments expressed in RAN WG2 and WG1 on the solution proposed, RAN WG2 in particular had sent a LS on this issue that had been ignored by WG3.
Alex Vesely (Siemens) explained that the CR doesn't affect the UE-network signalling under the scope of WG2, it is a pure intra network issue.

Samsung and Qualcomm noted that the network part hadn't been studied in RAN WG2 and that, in principle, didn't see any problem with it. However, since an associated CR to RAN WG2 specs is needed to signal the frame offset to the UE, it is recommended to go back to the WGs for further discussion.

As a conclusion, RAN WG3 is tasked to review the scheme, and RAN WG2 will produce the CR for the signalling to the UE. The CR is not approved.

RP-050130 Options for removal of unnecessary MBMS combining schemes (Vodafone)

Alan Law (Vodafone) presented this document
There has been discussion in WG4 on removing one of the combining schemes used for MBMS reception, in order to reduce complexity. Nokia had proposed there to remove selective combining. Vodafone proposes with this contribution to remove RAKE combining, on the basis of the network complexity and UE production delays that it will induce.

Gert-Jan van Lieshout (Samsung) noted that the additional complexity in the UE due to having RAKE is very limited.

Howard Benn (Motorola) supported Vodafone and noted that the removal will significantly simplify simulations in RAN WG4.

It was noted that RAN WG2 had recently considered signalling to the UE that a group of cells belongs to the same NodeB to increase the efficiency of the RAKE Combining. Vodafone noted that despite of this, the proposal to remove RAKE still made sense from an operator's perspective.

Denis Fauconnier (Nortel) explained that soft combining and RAKE combining should not be considered different schemes, the signalling so far is implemented only for soft combing and it is left open for UE implementations to have RAKE as an improved performance. Denis also reminded that the majority of companies in RAN WG2 support selective combining, which was the first combining scheme introduced in the group and in the specifications as well.

The following statement was proposed by Vodafone as a way forward:

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TSG RAN agrees to remove the RAKE MBMS combining option to facilitate the faster completion of the MBMS minimum performance requirements.

Alan further clarified that this is a first step towards simplification, decision on removal of one of the remaining options is not precluded. Dirk Gerstenberger (Ericsson) noted however that RAKE is the less complex of the solutions and in fact very linked to soft combining, the real issue will be to remove selective combining.

The statement above was agreed, WGs are tasked to correct the specifications accordingly. RAN WG2 is asked to make efforts to agree on a single combining scheme.

9.4.1 MBMS performance requirements

RP-050015 Status Report for WI UE Performance Requirements for MBMS (Ericsson)
Per Beming (Ericsson) presented this report
There was discussion on the applicability of this WI to TDD. The companies that supported the creation of this WI preferred to have a separate item for TDD, IPWireless was encouraged to produce one and to contribute to it in WG4.

9.5 Multiple Input Multiple Output Antennas (On hold)

RP-050126 Status of MIMO (Lucent)
Sudeep Palat (Lucent) presented this short report.
No progress on MIMO, the WI is on hold. It was noted that the future of MIMO, (part of the LT Evolution or a separate Rel-7 item) would be clarified in the next RAN meeting as agreed in December.

9.6 FDD Enhanced Uplink

RP-050016 Status Report for WI FDD Enhanced Uplink (Ericsson)
Per Beming (Ericsson) presented this report
Per estimated the level of completion in WG3 as 80%, RAN WG3 chairman confirmed this figure.
Per proposed to consider RAN WG1, WG2, WG3 WIs closed and to go ahead with the approval of the CRs. Antti Toskala (Nokia) agreed that the physical layer part can be considered completed, but not WG2 and WG3 parts given the number of open issues reported. Edgar Fernandes (Motorola) noted that most of the CRs from WG2 are for Stage 2, and that the UE Capabilities are still not agreed in WG1. He questioned the closure of the WIs in such state.
Per noted that his approach is the same as followed for MBMS, which was closed without being at 100%, and reminded that UE capabilities for MBMS are also still undefined.

The CRs in the documents in the table below were approved without comments:

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Document	Title	Source
RP-050043	CRs (Rel-6 Category F) to TS25.211 for E-HICH/E-RGCH Signature Sequences and Signature Sequence Hopping	RAN WG1
RP-050044	CR (Rel-6 Category F) to TS25.212 for PLnon-max and PI max	RAN WG1
RP-050045	CR (Rel-6 Category C) to TS25.212 for HARQ bit collection for E-DCH	RAN WG1
RP-050046	CR (Rel-6 Category F) to TS25.213 for Correction on E-DPCCH power offset	RAN WG1
RP-050047	CR (Rel-6 Category F) to TS25.213 for Defining E-DPDCH power offset	RAN WG1
RP-050048	CR (Rel-6 Category F) to TS25.214 for Gain factor setting for E-DCH	RAN WG1
RP-050049	CR (Rel-6 Category F) to TS25.214 for Reliable E-RGCH/E-HICH Detection	RAN WG1
RP-050058	CRs (Rel-6 category F) for corrections of Enhanced uplink in RAN3 specifications	RAN WG3
RP-050084	25.331 CRs to Rel-6 on Enhanced Uplink Corrections	RAN WG2
RP-050090	CR (Rel-6 Category F) to TS25.211 for E-HICH/E-RGCH/E-AGCH timing	RAN WG1
RP-050115	25.309 CR (Rel-6) on Enhanced Uplink (Stage 2)	RAN WG2

RP-050091 CR (Rel-6 Category F) to TS25.214 for DL/UL timing association of E-DCH operation (RAN WG1)

The CR is revised in the document below

RP-050140 CR (Rel-6 Category F) to TS25.214 for DL/UL timing association of E-DCH operation (Qualcomm, Nortel, Ericsson, Panasonic & Samsung)

Lucent has noted that there is an inconsistency between this CR and the Stage 2. There will be further corrections in tis area for the Stage 2 and for WG1 specifications.
The CR is approved.

RP-050119 CR (Rel-6 category F) to TS 25.427 on EDCH Frame format update (RAN WG3)

The CR is revised in the document below.

RP-050137 CR102 TS25.427 Rel-6, E-DCH Frame format update (Nokia)

It is clarified that the spare byte in figure 11a is due to an open discussion where the maximum size of the value hasn't been agreed yet, but will fit within the current ASN.1 description
The CR is approved.

RP-050085 25.306 CR to Rel-6 on the introduction of Enhanced Uplink (RAN WG2)
RP-050143 CR 25.306 Rel-6 Inclusion of UE categories for Enhanced Uplink (Motorola, NEC, Nokia, Nortel Networks, NTT DoCoMo, Orange, Philips, Vodafone)

In RP-050085, Table 5.1g proposes 8 UE categories where three are FFS, and clarifies that only a total of 6 categories should be finally approved. RP-050143 revises that table, removing two of the categories FFS and introducing the third as the last approved category.

RP-050143 however increases the max transport block size for the 10ms TTI of the 5 categories agreed in WG1 from 20000 bits to 24000 bits. This modification was objected, as it hadn't been endorsed by WG1. It is agreed to revise RP-050085 with the categories in RP-050143 but to remove the 240000 bit TB size also proposed in RP-050143. The document below is the final revision.

RP-050154 25.306 CR to Rel-6 on the introduction of Enhanced Uplink (RAN WG2)

The CR is approved without comments

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RP-050142 TR 25.808 FDD Enhanced Uplink physical layer aspects v2.0.0 (Nokia)
Antti Toskala (Nokia) presented this TR
The TR is approved and will be put under change control.

After discussion, it was agreed that the WG1, WG2, WG3 WIs are closed, but a Status Report should still be produced for WG2 and WG3. WG1 open issues will be reported comprehensively by the chairman in his report.

In line with this approach, it was accepted that WG4 could agree on CRs even if its WI is less than 80% completed, provided that the CRs are related to RAN WG1, WG2 issues (like the power back off) and not to pure WG4 issues (performance requirements).

9.6.1 E-DCH Sheduling

RP-050129 E-DCH scheduling options: way forward (Vodafone Group, Motorola, T-Mobile, Nokia, Telecom Italia)
Volker Hoehn (Vodafone) presented this document
Vodafone explains there are three scheduling options under discussion in WG2, and a blocking situation has been maintained for some time. Having three options yields to specification complexity, and delays the completion of the feature.
Denis Fauconnier (Nortel) further explained that currently in WG2 there are two solutions for the same problem, a way forward could be to task WG2 to come back with only one proposal.

RP-050147 EDCH scheduling simplification (NTT DoCoMo)
RP-050152 Way forward on Enhanced Uplink scheduling schemes (Ericsson, Qualcomm, Samsung)
These contributions present other proposals for simplification of the scheduling.

An off line discussion was held by the interested parties, taking the three documents above as inputs. The conclusion was the following statement that was presented to the group for endorsement:

> TSG RAN has noted a general consensus on the fact that the current stage 2 describes two operating modes for the E-DCH scheduler (RG and non-RG based) which are in practice truly alternative options duplicating each other i.e. Network vendors are likely to choose to implement only one of the two, whereas the two are mandatory to the UE.
>
> There was also general consensus on the fact that this is not acceptable and that this will lead to deployment delay and interoperability complexities.
>
> As a consequence of these observations, RAN tasks RAN WG2 to reduce unnecessary options and come for the next RAN Plenary with a Stage 2 where no functionalities shall be unnecessarily duplicated, i.e. where all functions are useful in all network implementations. In line with this, RAN2 should continue their work based on the “RG based” mode as a starting point and to discuss the need for ramping.

The statement above was agreed, RAN WG2 is tasked to present to TSG RAN a simplified EDCH Stage 2 as explained above.

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9.7 7.68 Mcps TDD Option

RP-050017 Status Report for WI 7.68 Mcps TDD (IPWireless)
Derek Richards (IPWireless) presented this report.
Dirk Gerstenberger (RAN WG1 chairman) objected that WG1 is charged with this Stage 2 report. Derek clarified that RAN WG1 has the primary responsibility for this WI, and at its approval, WG1 seemed the appropriate choice for the Stage 2.
It was agreed either TRs of the 25.8xxx series, or WG internal TRs like used in WG3, can be used to recollect the work.
The completion level hasn't changed much since last presentation in TSG RAN, it was asked if the date can be maintained. Derek expected that the date would be met, provided that there is time to discuss the documents in the WGs.

9.8 Technical Small Enhancements and Improvements

The CRs in the documents below were approved without comments:

Document	Title	Source
RP-050041	CRs (Rel-6) to 25.101, 25.133, 25.141, 25.942 under WI Small Technical Enhancements and Improvements Rel-6	RAN WG4
RP-050050	Linked CRs (Rel-6 Category B) to TS25.215 & TS25.302 & TS 25.433 & TS 25.133 for Introduction of 'DL Transmission Branch Load' measurement	RAN WG1, WG2, WG3 & WG4
RP-050081	25.304, 25.331 CRs to Rel-6 on the correction to "selected PLMN" in Access Stratum	RAN WG2
RP-050059	CRs (Rel-6 category B and F) to TS 25.413, TS 25.423 and TS 25.433	RAN WG3
RP-050110	25.331 CRs to Rel-6 for CN domain specific Access Class Barring	RAN WG2
RP-050111	25.301 CR to Rel-6 on uncomplete logical channel identification for FACH	RAN WG2
RP-050112	25.304 CR to Rel-6 on H criterion in HCS high-mobility	RAN WG2
RP-050113	25.322 CRs Rel-6	RAN WG2
RP-050114	25.331 CR to Rel-6 on Cell Updates	RAN WG2

RP-050097 Linked CRs (Rel-6 Category C) to TS25.224 & TS25.331 for Improvements to uplink closed-loop power control for 1.28Mcps TDD (RAN WG1, WG2)
It was asked why RAN WG4 is not involved given the changes to the power control that these CRs introduce. Derek Richards (IPWireless) clarified that there is no impact to the power control specifications of WG4. The CRs are approved

RP-050120 CR017 TS29.108 Rel-6, Full RANAP support of network initiated SCUDIF (Nokia, Siemens: Telecom Italia)
These CRs are part of the feature in RP-050059. The CRs are approved.

RP-050095 Linked CRs (Rel-6 Category C) to TS25.214 & TS25.423 & TS25.433 for Timing maintained Hard Handover (RAN WG1, WG3)
The WG2 part of the feature is introduced by the company CR below.

RP-050135 CR to 25.331 (Rel-6) on Timing Maintained Hard Handover (Ericsson)
Nokia noted that this is the first time the CR is available. RAN WG2 chairman clarified that the CR has been circulated in RAN WG2 reflector, where a question was raised, but not publicly solved; in his view it cannot be considered that the CR has been agreed in RAN WG2 reflector.

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It is noted that there may be an impact in WG4 as well. RAN WG4 chairman explained that this feature hasn't been presented in WG4, it can't be assessed now what the impact could be. Contributions are welcome.

Finally, it is agreed to postpone the whole set (RP-050095 & RP-050135), pending the discussion in WG2 and the eventual need for a CR to 25.133 in WG4.

RP-050096 CR (Rel-6 Category B) to TS25.214 for Faster L1 DCH synchronization (RAN WG1)
RP-050134 CR to 25.331 (Rel-6) on Faster L1 synchronization (Ericsson)
The WG2 part of this feature is introduced by the company CR in RP-050134. It is agreed to follow the same procedure as above, the WG2 CR is to be further analysed by the group. WG4 will have to study the impact as well.
The CRs in RP-050096 & RP-050134 are postponed

RP-050060 CR (Rel-6 category F) to TS 25.415 on Clarification of Initialisation and Rate Control for Iu user plane version (RAN WG3)
The CR is revised in the company contribution below.

RP-050136 Revision of CR (Rel-6 category F) to TS 25.415 on Clarification of Initialisation and Rate Control for Iu user plane version (Ericsson, NEC, Siemens)
The CR is approved

RP-050106 Support of RT Services over HSDPA-HSDPA Mobility Enhancements (Cingular)
RP-050107 HSDPA Mobility Enhancements (HME) Solution to Support Real-Time Delay Sensitive Services (Cingular, Lucent)
Don Zelmer (Cingular) presented these documents
Cingular proposes to start the standardization effort to support conversational services based on IMS over HSDPA. For this, Cingular believes that a solution for fast and reliable cell change for HSDPA is needed to overcome the absence of SHO. Cingular presents a candidate solution and a preliminary set of CRs, with the intention to include the solution in Rel-6.
From a work program perspective, the chairman noted that this feature is based on the Enhanced Uplink, which is still in progress.
Han van Bussel (TMobile) agreed that conversational IP services over HSDPA is important for operators, but raised the concern of introducing a solution too fast in the specifications which may not be optimal; in his view the 3 months proposed are not enough to ensure that the correct choices are made. Vodafone, Ericsson and Nokia agreed with this view, a proper WI and Stage 2 analysis should be put in place before getting into the Stage 3.

Patrick Fisher (LG) asked if the goal is conversational services only or general HSDPA enhancements, also he asked for more evidence that the implementation of these services over HSDPA really brings the improvements claimed.

Serge Willenegger (Qualcomm) noted that the basic techniques proposed here are already being used commercially in other systems, and believed that completing the work can't take much longer than the proposed 9 months. He proposed to go ahead with the work and to discuss the Release when it is finished. He reminded that Rel-6 ASN.1 isn't frozen yet.

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The chairman however reminded that Rel-6 functionality and content has been frozen already. TSGs have been allowed to continue on work that was already started, and only with the approval of TSG SA, this is the reason for the required Submission Forms for each late WI.

Telefonica supported Cingular with this proposal but found that the end of the year would be a more accurate time frame.

Juho Lee (Samsung) noted that solutions to the problem may exist already in RAN WG2 specifications, and asked that a proper evaluation is performed before introducing this new one.

As a conclusion, it was agreed that a WI should be started on this feature. The WI Description Sheet can be presented to this group, approved in principle, and then revised by the WGs.

9.9 Closed Release-6 Work Items

The CRs in the documents below were approved without comments:

Document	Title	Source
RP-050061	CR (Rel-6 categories C,D,F) to TS 25.460, TS 25.461, TS 25.462 and TS 25.463	RAN WG3
RP-050062	CR (Rel-6 category B) to TS 25.433 on Beamforming Enhancements	RAN WG3
RP-050086	25.331 CRs to Rel-6 on Network Sharing	RAN WG2

9.10 Study Items

9.10.1 UTRA UTRAN Long term evolution

RP-050018 Status Report for FS on Evolved UTRA and UTRAN (NTT DoCoMo)
Takehiro Nakamura (NTT DoCoMo) presented this report
The report is noted

RP-050150 Revised draft skeleton TR of Requirements for EUTRA and EUTRAN (SI Rapporteur)
Takehiro Nakamura (NTT DoCoMo) presented this TR
The TR skeleton is endorsed. However the Work Programme is missing and should be included in the TR, as agreed in the LTE meeting.

RP-050155 Agreed Text proposals for the requirements TR (NTT DoCoMo)
The chairman clarified that approval and inclusion of this text in the TR will have to be done at the joint WGs meeting. In any case, the final text is still to be discussed in the joint WGs meeting.
It was further clarified that this text was agreed during the LTE meeting, it is not a matter of TSG RAN to approve or endorse this text.
The text will be incorporated to the next version of the requirements TR.

RP-050151 Revised Draft Skeleton TR of Feasibility Study for EUTRA and EUTRAN (SI Rapporteur)
The version of this and RP-050150 is 7.x.x, it should be 0.x.x.
The scope doesn't seem adequate to a TR that will be in between a traditional Feasibility Study TR and a Stage 2 TR. It was debated what kind of TR is this. To Qualcomm, this shouldn't be a Stage 2

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style TR, but to the understanding of the chairman, companies in the LTE meeting rejected having a Feasibility Study TR (garbage collector).
There were some comments on the Release of the TR, this will be sorted out with MCC.
The skeleton of this TR is endorsed

RP-050167 Long Term Evolution Work Plan (Ericsson)
Per Beming (Ericsson) presented this WP.
The WP is endorsed, the chairman will convey to TSG SA the schedule for the joint meetings with SA WG2.

9.10.2 Uplink Enhancements for UTRA TDD

RP-050019 Status Report for FS on Uplink enhancements for UTRA TDD (Interdigital)
Jim Miller (Interdigital) presented this report
The Study is finished and closed. A Work Item follows.

RP-050116 TR 25.804 Feasibility Study on Uplink Enhancements for UTRA TDD v2.0.0 (Interdigital)
The TR is approved and will be put under change control

9.11 New Work Items/Study Items

RP-050098 LCS/LBS Enhancements (SiRF Technology)
RP-050099 Proposed new WI: LCS Enhancements Related to Location-Based Services (SiRF Technology)
Ben Rodilitz (SiRF) presented these documents
In line with the WIs proposed by SA WG1, endorsed by WG2 and approved in TSG GERAN, it is proposed to enhance the LCS with the provision of continual position updates (not a single position report) and with improved performance.
It was asked what is intended by the provision of velocity, since this can be estimated from two measurements. Ben clarified that velocity obtained that way is not sufficiently accurate for certain services.
Ben clarified that the SA WG1 item was approved in December, SA WG2 item will be approved next week. Hans van der Veen (NEC) commented that the SA WG1 document was a general umbrella WI for LCS, not specifically an approval of this technology. Also, he underlined that the SA WG2 document has not yet been approved.

Antti Toskala (Nokia) commented that the service requirements are very much unclear. He asked if the intention is to make this mandatory for all UEs.
The chairman noted that the architecture should be agreed in SA WG2 before RAN WGs start dedicating time to an item.

Francesco Grilli (Qualcomm) clarified that it is not possible today to report velocity for the UE based positioning. He further explained that to get velocity at the application, it depends very much how the particular system is developed. It depends on the application incorporated in the UE, and whether it is capable of calculating velocity, or if the application resides in the network which processes the reporting from the UE. Francesco requested that as a way forward, the new WI is approved conditional to the approval in SA of the SA WG2 part.

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Denis Fauconnier (Nortel) objected that for RAN WG2 to start working on this, the WI is too vague and broad. He would like to see a more focused WI Description to avoid a flood of papers each with a different proposal. This view was also supported by Motorola, the proposed Sheet doesn't say what needs to be done by the RAN groups; more detail is needed.

Finally, proponents are asked to come to next TSG RAN with a Sheet that details the work to be performed in RAN WGs.

RP-050100 Proposed Work Item on 3.84 Mcps TDD Enhanced Uplink (IPWireless)
Derek Richards (IPWireless) presented this proposal
This proposal is for a feature, with separate Sheets for the Building Blocks in each group.
No objections, the WIDS for the new Feature is approved.

RP-050162 Proposed WI on CS and PS call setup delay improvement (Three)
Hashem Madadi (Three) presented this proposal. Alcatel also supported the proposal
There was discussion if a Study Item phase is needed. To Motorola, it is clear what has to be done, but unclear how it has to be done, this falls within the frame of a Work Item.
An alternative was to have a Study that would conclude on TEI CRs.

The Description Sheet was approved in principle, it will later be decided whether it is a Study or a Work Item. In any case, it is agreed that it shall not delay the finalization of the already ongoing work for Release 6 targeting faster channel set-up times.

RP-050146 Proposal of a new study item "Performance Evaluation of the UE behaviour in high speed trains with speeds up to 350 kmph" (Vodafone)
Alan Law (Vodafone) presented this Study
IPWireless requested to take TDD into account. The proponents couldn't commit to perform the necessary simulations for TDD; Alan preferred that interested companies raise another WI for the TDD equivalent.
The WIDS is approved

RP-050156 Proposed WI for UE performance requirements for MBMS (TDD) (IPWireless)
Derek Richards (IPWireless) presented this WI
No comments, the WIDS is approved

RP-050160 Proposed WI: Improved support of IMS Realtime Services using HSDPA/EDCH (Cingular)
Don Zelmer (Cingular) presented this WI
It was asked if UEs that don't support IMS will have to implement this improvement. Ericsson clarified that this cannot be assessed now, if it is found that the improvement is beneficial for non-IMS UEs, its applicability will be evaluated.
It is clarified that this focuses in FDD.
The WI is approved

10 Technical co-ordination among WGs

No contributions

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11 Outputs to other groups

RP-050153 Joint meeting RAN4-SA4 on MBMS (Sophia Antipolis, 4-6 April 2005): guidance for simulations and error patterns for the audio codec characterisation tests (TSG RAN Chairman and SA4 Secretary / SA4 SQ SWG Chairman)

This is a LS to remind TSG SA WG4 delegates of the meeting that RAN WG4 will held in Sophia Antipolis, where they are invited to participate in order to get the guidance on MBMS simulations and errors. The LS is approved and it will be presented by the chairman while discussing TSG WG4 matters during TSG SA plenary.

12 Project management

RP-050108 Scope and Timeframes for Release 7 (Cingular)

Steve Blust (Cingular) presented this document
Having in mind the open Rel-7 items in RAN, Cingular proposes to aim at closing Rel-7 in March 2006. The chairman noted that this is a matter for discussion in TSG SA and Cingular confirmed that the document will be presented there as well.
Hashem Madadi (Three) also asked that the document is brought to the attention of TSG SA, as a recollection of RAN items for Rel-7.
Alan Law (Vodafone) noted that it is difficult to give any estimation looking at the list in Table 1, where most of the items are vague.

Antti Toskala (Nokia) noted that an official indication from TSG SA of the Rel-7 timeframe would be welcomed in RAN and its WGs to better organize and prioritise the work.

The 4 documents below are presented for information:

RP-050042 TSG RAN WI & SI Description Sheets (3GPP Support)

This contribution contains all the Description Sheets of Work Items and Study Items under the responsibility of TSG RAN, active and closed.

RP-050138 Specs per Release (3GPP Support)

The Excel table included in this contribution allows seeing at a glance the Releases that exist for a given specification and the current version for each.

RP-050139 Status list before (3GPP Support)

This is the detailed list of 3GPP specifications.

RP-050149 Template form for reporting of late WI to SA (3GPP Support)

This template needs to be filled and presented for any Work Item still unfinished but intended for inclusion in Release 6. The forms will be presented in TSG SA.

The 4 documents below are the forms to be presented in TSG SA for each of the TSG RAN Work Items that are not completed yet but that the group agrees that they belong to Release 6. They were briefly presented and approved.

RP-050161 Submission form for Rel-6 Late WI: RAB Support enhancements (Nokia)

RP-050159 Submission form for late Rel-6 feature: Improved Performance Requirements for HSDPA UE cat 7 & 8 (Nokia)

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RP-050165 Submission form for Rel-6 Late WI: EDCH performance requirements (Ericsson)
RP-050166 Submission form for Rel-6 Late WI: MBMS performance requirements (Ericsson)

13 Any other business

RP-050101 Working Procedure (IPWireless)
Derek Richards (IPWireless) presented this contribution
Dirk Gerstenberger (RAN WG1) noted that a solution would be to schedule agendas in the different meetings of the same group in a way that topics that cannot be covered in one meeting are covered in the following meetings.
The principle expressed in the contribution, namely that all approved WIs and SIs should be covered by RAN WG agendas with sufficient time allocated to them, was endorsed, noting that there may be a need for the occasional exception.

RP-050158 INTRODUCTION OF CAUTION++ ARCHITECTURE FOR UTRAN EVOLUTION (IST CAUTION++ Consortium)
Ilkka Talvitie (Elisa) presented this document.
This document presents the results of the CAUTION++ project, a part of the European IST program and where some 3GPP members have participated. The project has specified a management system capable of monitoring heterogeneous networks (GSM, GPRS, UMTS & WLAN), of detecting congestion and applying techniques locally to each network to alleviate the overloads. When this is not possible, inter network techniques are applied. The project has defined a number of nodes and its functions, together with the internal and external interfaces.

The chairman suggested the proponents to make a similar presentation to TSG SA and asked companies to contact Ilkka off line for additional clarification on this project; at first sight it seems an interesting proposal for discussion in the joint SA WG2-RAN WGs meeting.

14 Closing of the meeting

The chairman explained that this in fact the last meeting of TSG RAN, as from now on the group is the merge of the current TSG RAN and TSG T groups. He thanked all the participants and in particular Eisuke Fukuda, vice chair, who will not continue as official. He offered him a present in the name of the group and wished him all the best for the future. With this, the meeting was adjourned at 16:00.

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Annex A: List of participants

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Annex B: List of documents

See main body of the report for clarification on documents partially approved.
Documents can be found at: http://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_27/

Tdoc	Title	Source	Decision
RP-050001	Draft agenda TSG RAN #27	Chairman	Revised in 2
RP-050002	Draft agenda TSG RAN #27	Chairman	Approved
RP-050003	Revised draft report TSG RAN meeting #26	3GPP Support	Approved
RP-050004	Status Report for WI Performance Requirements of Receive Diversity for HSDPA	NTT DoCoMo	Noted
RP-050005	Status Report for WI Improved minimum performance requirements for HSDPA UE categories 7 & 8	Nokia	Noted
RP-050006	Status Report for WI UMTS 2.6GHz	Nokia	Noted
RP-050007	Status Report for WI UMTS 2.6GHz TDD	IPWireless	Noted
RP-050008	Status Report for WI UMTS 900	Nortel	Noted
RP-050009	Status Report for WI UE Antenna Performance Evaluation Method and Requirements	TeliaSonera	Noted
RP-050010	Status Report for WI RAB support enhancement	Nokia	Noted
RP-050011	Status Report for WI Optimisation of downlink channelisation code utilisation	Nortel	Noted
RP-050012	Status Report for WI Optimisation of channelisation code utilisation for 3.84 Mcps TDD	IPWireless	Noted
RP-050013	Status Report for WI Optimisation of channelisation code utilisation for 1.28 McpsTDD	IPWireless	Noted
RP-050014	Status Report for WI Inclusion of Uplink TDOA UE positioning method in the UTRAN specifications	TruePosition	Noted
RP-050015	Status Report for WI UE Performance Requirements for MBMS	Ericsson	Noted

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Tdoc	Title	Source	Decision
RP-050016	Status Report for WI FDD Enhanced Uplink	Ericsson	Noted
RP-050017	Status Report for WI 7.68 Mcps TDD	IPWireless	Noted
RP-050018	Status Report for FS on Evolved UTRA and UTRAN	NTT DoCoMo	Noted
RP-050019	Status Report for FS on Uplink enhancements for UTRA TDD	Interdigital	Noted
RP-050020	Status Report WG1	RAN WG1 Chairman	Noted
RP-050021	List of CRs from RAN WG1	RAN WG1	Noted
RP-050022	Status Report WG2	RAN WG2 Chairman	Revised in 145
RP-050023	List of CRs from RAN WG2	RAN WG2	Noted
RP-050024	Status Report WG3	RAN WG3 Chairman	Noted
RP-050025	List of CRs from RAN WG3	RAN WG3	Noted
RP-050026	Status Report WG4	RAN WG4 Chairman	Noted
RP-050027	List of CRs from RAN WG4	RAN WG4	Noted
RP-050028	LS from Q.1/19 to SDOs	ITU-T (Q1/19 Rapporteur)	Noted
RP-050029	LS on Use of GSM BS on board aircraft	ETSI MSG	Noted
RP-050030	Sharing and compatibility studies for UMTS in 900 MHz band	ECC PT1	Noted
RP-050031	LS on Additional simulation scenarios for UMTS900	TSG RAN WG4	Noted
RP-050032	LS on Antenna Performance Evaluation Method and Requirements	TSG GERAN	Noted
RP-050033	Misalignment amongst the 3GPP specifications, “Re-authentication and key set change during inter-system handover”	TSG CN WG1	Noted
RP-050034	LS on network-initiated SCUDIF support	TSG CN WG3	Noted
RP-050035	LS on ROHC testing	TSG RAN WG2	Noted
RP-050036	LS on ROHC testing	TSG T WG1	Noted
RP-050037	CRs (R99 & Rel-4/Rel-5/Rel-6 CatA) to 25.133 for the Correction of DPCH_Ec/Ior level in Annex 7	RAN WG4	Approved
RP-050038	Endorsed CRs (R99 & Rel-4/Rel-5/Rel-6 CatA) to 25.101, 25.133, 25.215, 25.331, 25.423, 25.433 for the removal of TGPL2	RAN WG1, WG2, WG3, WG4	Partially approved
RP-050039	CRs (Rel-5 &Rel-6 CatA) to 25.101 on corrections to the HS-DPCCH time mask requirements	RAN WG4	Approved
RP-050040	CRs (Rel-6) to 25.101 for the WI improved performance requirements for HSDPA UE with RX diversity	RAN WG4	Approved
RP-050041	CRs (Rel-6) to 25.101, 25.133, 25.141, 25.942 under WI Small Technical Enhancements and Improvements Rel-6	RAN WG4	Approved
RP-050042	TSG RAN WI & SI Description Sheets	3GPP Support	Noted
RP-050043	CRs (Rel-6 Category F) to TS25.211 for E-HICH/E-RGCH Signature Sequences and Signature Sequence Hopping	RAN WG1	Approved
RP-050044	CR (Rel-6 Category F) to TS25.212 for PLnon-max and Plmax	RAN WG1	Approved
RP-050045	CR (Rel-6 Category C) to TS25.212 for HARQ bit collection for E-DCH	RAN WG1	Approved
RP-050046	CR (Rel-6 Category F) to TS25.213 for Correction on E-DPCCH power offset	RAN WG1	Approved
RP-050047	CR (Rel-6 Category F) to TS25.213 for Defining E-DPDCH power offset	RAN WG1	Approved
RP-050048	CR (Rel-6 Category F) to TS25.214 for Gain factor setting for E-DCH	RAN WG1	Approved
RP-050049	CR (Rel-6 Category F) to TS25.214 for Reliable E-RGCH/E-HICH Detection	RAN WG1	Approved
RP-050050	Linked CRs (Rel-6 Category B) to TS25.215 & TS25.302 & TS 25.433 & TS 25.133 for Introduction of ‘DL Transmission Branch Load’ measurement	RAN WG1, WG2, WG3 & WG4	Approved
RP-050051	Review of RAN1 Terms of reference	RAN WG1	Withdrawn

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Tdoc	Title	Source	Decision
RP-050052	CRs (Rel-5 and Rel-6 category A) to TS 25.415 and TS 25.413	RAN WG3	Approved
RP-050053	CRs (Rel-5 and Rel-6 category A) which affect TS 25.423 and TS 25.433	RAN WG3	Approved
RP-050054	CRs (Rel-5 and Rel-6 category A) to TS 25.427, TS 25.423 and TS 25.433	RAN WG3	Approved
RP-050055	CRs (Rel-5 and Rel-6 category A) to TS 25.453	RAN WG3	Approved
RP-050056	CRs (Rel-6 category B) for the introduction of fractional DPCH in RAN3 specifications	RAN WG3	Approved
RP-050057	CRs (Rel-6 category F) for MBMS in RAN3 specifications	RAN WG3	Approved
RP-050058	CRs (Rel-6 category F) for corrections of Enhanced uplink in RAN3 specifications	RAN WG3	Approved
RP-050059	CRs (Rel-6 category B and F) to TS 25.413, TS 25.423 and TS 25.433	RAN WG3	Approved
RP-050060	CR (Rel-6 category F) to TS 25.415 on Clarification of Initialisation and Rate Control for Iu user plane version	RAN WG3	Revised in 136
RP-050061	CR (Rel-6 categories C,D,F) to TS 25.460, TS 25.461, TS 25.462 and TS 25.463	RAN WG3	Approved
RP-050062	CR (Rel-6 category B) to TS 25.433 on Beamforming Enhancements	RAN WG3	Approved
RP-050063	Proposal of Update of RAN WG2 terms of Reference	RAN WG2	Withdrawn
RP-050064	25.993 CR (R'99 affected, Rel-6 version) on Addition of asymetric RAB combinations with voice	RAN WG2	Approved
RP-050065	25.306 CRs to Rel-4 (with linked Rel-5 and Rel-6) on the support of DSCH	RAN WG2	Approved
RP-050066	25.331 CRs to Rel-4 (with linked Rel-5 and Rel-6) on OTDOA Correction	RAN WG2	Approved
RP-050067	25.301, 25.306, 25.323, 25.331 CRs to Rel-5 (and Rel-6) on Lossless Downlink RLC PDU Size Change	RAN WG2	Approved
RP-050068	25.322 CRs to Rel-5 (and Rel-6) on the removal of the EPC mechanism	RAN WG2	Approved
RP-050069	25.331 CRs to Rel-5 (and Rel-6) - 1	RAN WG2	Approved
RP-050070	25.331 CRs to Rel-5 (and Rel-6) - 2	RAN WG2	Approved
RP-050071	25.993 CR (Rel-5 affected, Rel-6 version) on AMR-WB Reference RAB Configurations	RAN WG2	Approved
RP-050072	CRs to Rel-5 (and Rel-6) on Cell Reselection	RAN WG2	Withdrawn
RP-050073	25.304 CRs to Rel-5 (and Rel-6) on Cell Reselection (HCS and non-HCS)	RAN WG2	Approved
RP-050074	25.302 and 25.331 CRs Rel-6 on the introduction of Fractional DPCH	RAN WG2	Approved
RP-050075	25.301 CR (Rel-6) on the introduction of MBMS	RAN WG2	Approved
RP-050076	25.302 CR (Rel-6) on the introduction of MBMS	RAN WG2	Approved
RP-050077	25.304 CR (Rel-6) on MBMS scope (wording)	RAN WG2	Approved
RP-050078	25.321 CR (Rel-6) on MBMS MAC header	RAN WG2	Approved
RP-050079	25.331 CRs (Rel-6) on MBMS Corrections	RAN WG2	Approved
RP-050080	25.346 CRs (Rel-6) on MBMS (Stage 2)	RAN WG2	Approved
RP-050081	25.304, 25.331 CRs to Rel-6 on the correction to "selected PLMN" in Access Stratum	RAN WG2	Approved
RP-050082	25.322 CR to Rel-6 on the inclusion of Transmitter Constraints	RAN WG2	Approved
RP-050083	25.306 CR to Rel-6 on the support of ROhC mandatory	RAN WG2	Approved
RP-050084	25.331 CRs to Rel-6 on Enhanced Uplink Corrections	RAN WG2	Approved
RP-050085	25.306 CR to Rel-6 on the introduction of Enhanced Uplink	RAN WG2	Revised in 154
RP-050086	25.331 CRs to Rel-6 on Network Sharing	RAN WG2	Approved
RP-050087	25.331 CR to Rel-6 on additional frequency bands	RAN WG2	Approved
RP-050088	Linked CRs (Rel-6 Category B) to TS25.211 & TS25.212 & TS25.213 & TS25.214 & TS25.215 for Introduction of F-DPCH	RAN WG1	Approved
RP-050089	Linked CRs (Rel-6 Category B) to TS25.221 & TS25.224 & TS25.302 & TS25.331 for Release 6 HS-DSCH operation without a DL DPCH for 3.84Mcps	RAN WG1, WG2	Approved

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Tdoc	Title	Source	Decision
RP-050090	CR (Rel-6 Category F) to TS25.211 for E-HICH/E-RGCH/E-AGCH timing	RAN WG1	Approved
RP-050091	CR (Rel-6 Category F) to TS25.214 for DL/UL timing association of E-DCH operation	RAN WG1	Revised in 140
RP-050092	CR(Rel-6 Category F) to TS25.215 for Clarification of the cell on SFN-SFN observed time difference	RAN WG1	Approved
RP-050093	CR for TS25.215 R99, Rel4, Rel-5 Clarification of the cell on SFN-SFN observed time difference	Panasonic	Approved
RP-050094	CR (Rel-5 Category F) to TS25.214 for Correction to computed gain factors quantization	RAN WG1	Not approved
RP-050095	Linked CRs (Rel-6 Category C) to TS25.214 & TS25.423 & TS25.433 for Timing maintained Hard Handover	RAN WG1, WG3	Not approved
RP-050096	CR (Rel-6 Category B) to TS25.214 for Faster L1 DCH synchronization	RAN WG1	Not approved
RP-050097	Linked CRs (Rel-6 Category C) to TS25.224 & TS25.331 for Improvements to uplink closed-loop power control for 1.28Mcps TDD	RAN WG1, WG2	Approved
RP-050098	LCS/LBS Enhancements	SiRF Technology	Noted
RP-050099	Proposed new WI: LCS Enhancements Related to Location-Based Services	SiRF Technology	Not approved
RP-050100	Proposed Work Item on 3.84 Mcps TDD Enhanced Uplink	IPWireless	Approved
RP-050101	Working Procedure	IPWireless	Noted
RP-050102	Status Report ITU-R Ad Hoc	ITU-R Ad Hoc Contact person	Noted
RP-050103	Proposed Update reminder for the OPs on the compliance with ITU-R procedures as it relates to Revision 5 of Recommendation ITU-R M.1457	ITU-R Ad Hoc	Approved
RP-050104	Proposal for the development of a contribution for ITU-R WP8F on IP solutions	ITU-R Ad Hoc	Approved
RP-050105	Reply to “Reply LS on guidance and error patterns for MBMS streaming simulations”	TSG SA WG4	Noted
RP-050106	Support of RT Services over HSDPA-HSDPA Mobility Enhancements	Cingular	Noted
RP-050107	HSDPA Mobility Enhancements (HME) Solution to Support Real-Time Delay Sensitive Services	Cingular, Lucent	Noted
RP-050108	Scope and Timeframes for Release 7	Cingular	Noted
RP-050109	Removal of the Happy bit from 25.309	Motorola	Withdrawn
RP-050110	25.331 CRs to Rel-6 for CN domain specific Access Class Barring	RAN WG2	Approved
RP-050111	25.301 CR to Rel-6 on uncomplete logical channel identification for FACH	RAN WG2	Approved
RP-050112	25.304 CR to Rel-6 on H criterion in HCS high-mobility	RAN WG2	Approved
RP-050113	25.322 CRs Rel-6	RAN WG2	Approved
RP-050114	25.331 CR to Rel-6 on Cell Updates	RAN WG2	Approved
RP-050115	25.309 CR (Rel-6) on Enhanced Uplink (Stage 2)	RAN WG2	Approved
RP-050116	TR 25.804 Feasibility Study on Uplink Enhancements for UTRA TDD v2.0.0	Interdigital	Approved
RP-050117	E-DCH scheduling options: way forward	Vodafone Group, Motorola, T-Mobile, NTT DoCoMo, Nokia, Telecom Italia	Revised in 129
RP-050118	Revision of CR (Rel-6 category F) to TS 25.415 on Clarification of Initialisation and Rate Control for Iu user plane version	Ericsson	Revised in 136
RP-050119	CR (Rel-6 category F) to TS 25.427 on EDCH Frame format update	RAN WG3	Rejected
RP-050120	CR017 TS29.108 Rel-6, Full RANAP support of network initiated SCUDIF	Nokia, Siemens: Telecom Italia	Approved
RP-050121	CR102 TS25.427 Rel-6, E-DCH Frame format update	Nokia	Revised in 137
RP-050122	Revised WID for the work item: UE Antenna Performance Evaluation Method and Requirements	TeliaSonera/RAN WG4	Approved
RP-050123	Proposed WI on CS and PS call setup delay improvement	Three	Revised in 133

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Tdoc	Title	Source	Decision
RP-050124	Mandatory features reliability assurance	Nokia	Noted
RP-050125	Feature clean up	Nokia, Motorola, T-Mobile, Ericsson, Panasonic, NTT DoCoMo, Qualcomm, Telecom Italia	Revised in 144
RP-050126	Status of MIMO	Lucent	Noted
RP-050127	CR 1090r1 to 25.433 on Time alignment in MBMS transmission channels	Siemens	Revised in 148
RP-050128	CRs (Rel-5 & Rel-6) to 35.304 & 25.331 for the Correction to cell selection and reselection parameters to enable enhanced cell reselection	NTT DoCoMo	Approved
RP-050129	E-DCH scheduling options: way forward	Vodafone Group, Motorola, T-Mobile, Nokia, Telecom Italia	Noted
RP-050130	Options for removal of unnecessary MBMS combining schemes	Vodafone	Noted
RP-050131	Elections: a practical guide	3GPP Support	Noted
RP-050132	Letters from candidates to RAN chairman and vice-chairman	3GPP Support	Noted
RP-050133	Proposed WI on CS and PS call setup delay improvement	Three	Revised in 162
RP-050134	CR to 25.331 (Rel-6) on Faster L1 synchronization	Ericsson	Not approved
RP-050135	CR to 25.331 (Rel-6) on Timing Maintained Hard Handover	Ericsson	Not approved
RP-050136	Revision of CR (Rel-6 category F) to TS 25.415 on Clarification of Initialisation and Rate Control for Iu user plane version	Ericsson, NEC, Siemens	Approved
RP-050137	CR 102 TS25.427 Rel-6, E-DCH Frame format update	Nokia	Approved
RP-050138	Specs per Release	3GPP Support	Noted
RP-050139	status list before	3GPP Support	Noted
RP-050140	CR (Rel-6 Category F) to TS25.214 for DL/UL timing association of E-DCH operation	Qualcomm, Nortel, Ericsson, Panasonic & Samsung	Approved
RP-050141	Feature removal CRs	Nokia	Noted
RP-050142	TR 25.808 FDD Enhanced Uplink physical layer aspects v2.0.0	Nokia	Approved
RP-050143	CR 25.306 Rel-6 Inclusion of UE categories for Enhanced Uplink	Motorola, NEC, Nokia, Nortel Networks, NTTDocomo, Orange, Philips, Vodafone	Not approved
RP-050144	Feature clean up	Nokia, Motorola, T-Mobile, Ericsson, Panasonic, NTT DoCoMo, Qualcomm, Telecom Italia	Agreed
RP-050145	Status Report WG2	RAN WG2 Chairman	Noted
RP-050146	Proposal of a new study item "Performance Evaluation of the UE behaviour in high speed trains with speeds up to 350 kmph"	Vodafone	Approved
RP-050147	EDCH scheduling simplification	NTT DoCoMo	Noted
RP-050148	CR 1090r2 to 25.433 on Time alignment in MBMS transmission channels	Siemens	Rejected
RP-050149	Template form for reporting of late WI to SA	3GPP Support	Noted
RP-050150	Revised draft skeleton TR of Requirements for EUTRA and EUTRAN	SI Rapporteur	Endorsed

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Tdoc	Title	Source	Decision
RP-050151	Revised Draft Skeleton TR of Feasibility Study for EUTRA and EUTRAN	SI Rapporteur	Endorsed
RP-050152	Way forward on Enhanced Uplink scheduling schemes	Ericsson, Qualcomm, Samsung	Noted
RP-050153	Joint meeting RAN4-SA4 on MBMS (Sophia Antipolis, 4-6 April 2005) : guidance for simulations and error patterns for the audio codec characterisation tests	TSG RAN Chairman and SA4 Secretary / SA4 SQ SWG Chairman	Approved
RP-050154	25.306 CR to Rel-6 on the introduction of Enhanced Uplink	Nokia	Approved
RP-050155	Agreed Text proposals for the requirements TR	NTT DoCoMo	Noted
RP-050156	Proposed WI for UE performance requirements for MBMS (TDD)	IPWireless	Approved
RP-050157	Terms of Reference of RAN WG5	RAN WG5 chairman	Dealt with in the new-RAN meeting
RP-050158	INTRODUCTION OF CAUTION++ ARCHITECTURE FOR UTRAN EVOLUTION	IST CAUTION++ Consortium	Noted
RP-050159	Submission form for late Rel-6 feature: Improved Performance Requirements for HSDPA UE cat 7 & 8	Nokia	Approved
RP-050160	Proposed WI: Improved support of IMS Realtime Services using HSDPA/EDCH	Cingular	Approved
RP-050161	Submission form for Rel-6 Late WI: RAB Support enhancements	Nokia	Approved
RP-050162	Proposed WI on CS and PS call setup delay improvement	Three	Approved
RP-050163	Work Plan Slides	3GPP Support	Noted
RP-050164	3GPP Work Plan	3GPP Support	Noted
RP-050165	Submission form for Rel-6 Late WI: EDCH performance requirements	Ericsson	Approved
RP-050166	Submission form for Rel-6 Late WI: MBMS performance requirements	Ericsson	Approved
RP-050167	Long Term Evolution Work Plan	Ericsson	Noted
RP-050168	Terms of reference of RAN WG1, WG2, WG4	RAN WG chairmen	Dealt with in the new-RAN meeting

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Annex C: List of CRs presented at TSG RAN #27

The table below lists ALL the CRs presented at RAN#27.

Spec	CR	Rev	Phase	Curr Ver	Cat	Doc 1st-Level	Status 1st-Level	Subject	Work Item	WG	Doc 2nd-Level
25.101	391		Rel-6	6.6.0	B	RP-050040	Approved	Specification of enhanced performance requirements for HS-SCCH with open loop diversity based on receiver diversity	RInImp-HSPerf-RxDiv	R4	R4-050014
25.101	392		Rel-6	6.6.0	C	RP-050040	Approved	Modification of enhanced performance requirements for HS-SCCH based on receiver diversity	RInImp-HSPerf-RxDiv	R4	R4-050015
25.101	393		R99	3.17.0	C	RP-050038	Rejected	Removal of TGPL2	TEI	R4	R4-050034
25.101	394		Rel-4	4.11.0	A	RP-050038	Rejected	Removal of TGPL2	TEI	R4	R4-050035
25.101	395		Rel-5	5.13.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R4	R4-050036
25.101	396		Rel-6	6.6.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R4	R4-050037
25.101	397		Rel-6	6.6.0	F	RP-050041	Approved	Minimum performance for constant BLER testcases	TEI6	R4	R4-050044
25.101	400	1	Rel-6	6.6.0	F	RP-050040	Approved	Clarification of mapping of HS-DSCH requirements	RInImp-HSPerf-RxDiv	R4	R4-050229
25.101	401	1	Rel-6	6.6.0	F	RP-050041	Approved	OCNS definition for transmit diversity	TEI6	R4	R4-050265
25.101	402		Rel-6	6.6.0	F	RP-050041	Approved	Corrections to 9.2 demodulation of HS-DSCH	TEI6, HSDPA-RF	R4	R4-050139
25.101	403	2	Rel-5	5.13.0	F	RP-050039	Approved	HS-DPCCH time mask requirements	HSDPA-RF	R4	R4-050279
25.101	404	2	Rel-6	6.6.0	A	RP-050039	Approved	HS-DPCCH time mask requirements	HSDPA-RF	R4	R4-050280
25.101	406		Rel-6	6.6.0	F	RP-050041	Approved	Update UMTS FDD Receiver Blocking Specifications	TEI6	R4	R4-050204
25.101	407	1	Rel-6	6.6.0	B	RP-050040	Approved	Enhanced performance requirements for HSDPA cat 7 & 8 capable receivers	RInImp-HSPerf-RxDiv	R4	R4-050268
25.133	707	1	Rel-6	6.8.0	B	RP-050050	Approved	Introduction of DL Transmission Branch Load Measurement	TEI6	R4	R4-050106
25.133	712		R99	3.19.0	C	RP-050038	Rejected	Removal of TGPL2	TEI	R4	R4-050038
25.133	713		Rel-4	4.13.0	A	RP-050038	Rejected	Removal of TGPL2	TEI	R4	R4-050039
25.133	714		Rel-5	5.13.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R4	R4-050040
25.133	715		Rel-6	6.8.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R4	R4-050041
25.133	719		Rel-6	6.8.0	F	RP-050041	Approved	GSM BSIC reconfirmation	TEI6	R4	R4-050051
25.133	720		Rel-6	6.8.0	F	RP-050041	Approved	Cell Search Requirement	TEI6	R4	R4-050052
25.133	721		Rel-6	6.8.0	F	RP-050041	Approved	Correction of error in the implementation of CR502	TEI6	R4	R4-050075
25.133	724	2	R99	3.19.0	F	RP-050037	Approved	Correction to DPCH_Ec/Ior level in A.7.1 UE Transmit Timing	TEI	R4	R4-050256
25.133	725	2	Rel-4	4.13.0	A	RP-050037	Approved	Correction to DPCH_Ec/Ior level in A.7.1 UE Transmit Timing	TEI	R4	R4-050257

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25.133	726	2	Rel-5	5.13.0	A	RP-050037	Approved	Correction to DPCH_Ec/Ior level in A.7.1 UE Transmit Timing	TEI	R4	R4-050258
25.133	727	2	Rel-6	6.8.0	A	RP-050037	Approved	Correction to DPCH_Ec/Ior level in A.7.1 UE Transmit Timing	TEI	R4	R4-050259
25.141	362		Rel-6	6.8.0	F	RP-050041	Approved	Test model usage for TX diversity test case	TEI6	R4	R4-050145
25.141	363	1	Rel-6	6.8.0	F	RP-050041	Approved	Description of test procedure for Time alignment error in TX Diversity	TEI6	R4	R4-050283
25.211	197	1	Rel-6	6.3.0	F	RP-050043	Approved	E-HICH/E-RGCH Signature Sequences	EDCH-Phys	R1	R1-050182
25.211	198	1	Rel-6	6.3.0	F	RP-050043	Approved	E-RGCH/E-HICH Sigunature Sequence Hopping	EDCH-Phys	R1	R1-050195
25.211	200	1	Rel-6	6.3.0	B	RP-050088	Approved	Introduction of F-DPCH without pilot field	RANimp-RABSE-CodeOptFDD	R1	R1-050178
25.211	202	2	Rel-6	6.3.0	F	RP-050090	Approved	E-HICH/E-RGCH/E-AGCH timing	EDCH-Phys	R1	R1-050223
25.212	193	1	Rel-6	6.3.0	B	RP-050088	Approved	Introduction of F-DPCH	RANimp-RABSE-CodeOptFDD	R1	R1-050080
25.212	198	1	Rel-6	6.3.0	F	RP-050044	Approved	PLnon-max and Plmax	EDCH-Phys	R1	R1-050194
25.212	199	-	Rel-6	6.3.0	C	RP-050045	Approved	HARQ bit collection for E-DCH	EDCH-Phys	R1	R1-050108
25.213	70	1	Rel-6	6.1.0	B	RP-050088	Approved	Introduction of F-DPCH	RANimp-RABSE-CodeOptFDD	R1	R1-050081
25.213	72	-	Rel-6	6.1.0	F	RP-050046	Approved	Correction on E-DPCCH power offset	EDCH-Phys	R1	R1-050064
25.213	73	1	Rel-6	6.1.0	F	RP-050047	Approved	Defining E-DPDCH power offset	EDCH-Phys	R1	R1-050204
25.214	354	3	Rel-6	6.4.0	C	RP-050095	Postponed	Timing maintained Hard Handover	TEI6	R1	R1-050201
25.214	355	2	Rel-6	6.4.0	B	RP-050096	Postponed	Faster L1 DCH synchronization	TEI6	R1	R1-050173
25.214	362	2	Rel-6	6.4.0	F	RP-050048	Approved	Gain factor setting for E-DCH	EDCH-Phys	R1	R1-050215
25.214	364	1	Rel-6	6.4.0	F	RP-050049	Approved	Reliable E-RGCH/E-HICH Detection	EDCH-Phys	R1	R1-050198
25.214	365	-	Rel-5	5.10.0	F	RP-050094	Postponed	Correction to computed gain factors quantization	TEI5	R1	R1-050113
25.214	368	1	Rel-6	6.4.0	B	RP-050088	Approved	Introduction of F-DPCH without pilot field	RANimp-RABSE-CodeOptFDD	R1	R1-050179
25.214	369	2	Rel-6	6.4.0	F	RP-050091	Revised	DL/UL timing asscociation of E-DCH operation	EDCH-Phys	R1	R1-050224
25.214	369	3	Rel-6	6.4.0	F	RP-050140	Approved	DL/UL timing assoication of E-DCH operation	EDCH-Phys	R1	
25.215	147	4	Rel-6	6.1.0	B	RP-050050	Approved	Introduction of 'DL Transmission Branch Load' measurement	TEI6	R1	R1-050114
25.215	150	1	R99	3.12.0	C	RP-050038	Rejected	Removal of TGPL2	TEI	R1	R1-050110
25.215	151	1	Rel-4	4.7.0	A	RP-050038	Rejected	Removal of TGPL2	TEI	R1	R1-050110
25.215	152	1	Rel-5	5.5.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R1	R1-050110
25.215	153	1	Rel-6	6.1.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R1	R1-050110
25.215	154	-	Rel-6	6.1.0	F	RP-050092	Approved	Clarification of cell on SFN-SFN observed time difference	TEI	R1	R1-050082
25.215	155	-	Rel-6	6.1.0	B	RP-050088	Approved	Introduction of F-DPCH without pilot field	RANimp-RABSE-CodeOptFDD	R1	R1-050133
25.215	156	-	R99	3.12.0	F	RP-050093	Approved	Clarification of the cell on SFN-SFN observed time difference	TEI	R1	
25.215	157	-	Rel-4	4.7.0	A	RP-050093	Approved	Clarification of the cell on SFN-SFN observed time	TEI	R1	

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								difference			
25.215	158	-	Rel-5	5.5.0	A	RP-050093	Approved	Clarification of the cell on SFN-SFN observed time difference	TEI	R1	
25.221	118	-	Rel-6	6.2.0	B	RP-050089	Approved	Release 6 HS-DSCH operation without a DL DPCH for 3.84Mcps TDD	RANimp-RABSE-CodeOptTDD	R1	R1-050227
25.224	140	2	Rel-6	6.3.0	C	RP-050097	Approved	Improvements to uplink closed-loop power control for 1.28Mcps TDD	LCRTDD-Phys	R1	R1-050096
25.224	141	-	Rel-6	6.3.0	B	RP-050089	Approved	Release 6 HS-DSCH operation without a DL DPCH for 3.84Mcps TDD	RANimp-RABSE-CodeOptTDD	R1	R1-050228
25.301	072	-	Rel-6	6.1.0	F	RP-050111	Approved	Uncomplete logical channel identification for FACH	TEI6	R2	R2-050292
25.301	073	-	Rel-5	5.3.0	B	RP-050067	Approved	Lossless DL RLC PDU size change	TEI5	R2	R2-050661
25.301	074	-	Rel-6	6.3.0	B	RP-050067	Approved	Lossless DL RLC PDU size change	TEI5	R2	R2-050662
25.301	075	-	Rel-6	6.1.0	B	RP-050075	Approved	Introduction of MBMS	MBMS-RAN	R2	R2-050653
25.302	148	-	Rel-6	6.2.0	B	RP-050089	Approved	Release 6 HS-DSCH operation without a DL DPCH for 3.84 Mcps TDD	RANimp-RABSE-CodeOPTTDD	R2	R2-050289
25.302	149	-	Rel-6	6.2.0	B	RP-050074	Approved	Introduction of F-DPCH	RANimp-RABSE-CodeOptFDD	R2	R2-050634
25.302	150	1	Rel-6	6.2.0	B	RP-050076	Approved	Introduction of MBMS	MBMS-RAN	R2	R2-050719
25.302	151	-	Rel-6	6.2.0	B	RP-050050	Approved	Introduction of 'DL Transmission Branch Load' measurement	TEI6	R2	R2-050705
25.304	125	1	Rel-6	6.4.0	F	RP-050081	Approved	Corrections to "selected PLMN" in access stratum	TEI6	R2	R2-050392
25.304	128	1	Rel-5	5.7.0	F	RP-050073	Approved	Reselection procedures (1235)	TEI5	R2	R2-050734
25.304	129	1	Rel-6	6.4.0	A	RP-050073	Approved	Reselection procedures (1235)	TEI5	R2	R2-050735
25.304	130	1	Rel-5	5.7.0	F	RP-050073	Approved	RSCP Thresholds	TEI5	R2	R2-050738
25.304	131	1	Rel-6	6.4.0	A	RP-050073	Approved	RSCP Thresholds	TEI5	R2	R2-050739
25.304	132	2	Rel-6	6.4.0	A	RP-050073	Approved	High-mobility measurement rules	TEI5	R2	R2-050745
25.304	133	-	Rel-6	6.4.0	F	RP-050112	Approved	H criterion in HCS high-mobility	TEI6	R2	R2-050670
25.304	134	-	Rel-6	6.4.0	F	RP-050077	Approved	MBMS Scope	MBMS-RAN	R2	R2-050654
25.304	135	1	Rel-5	5.7.0	F	RP-050073	Approved	Intra frequency measurement rules for HCS	TEI5	R2	R2-050742
25.304	136		Rel-5	5.7.0	F	RP-050072	Revised	Correction to cell selection and reselection to enable enhanced cell reselection	TEI5	R2	R2-050730
25.304	136	1	Rel-5	5.7.0	B	RP-050128	Approved	Correction to cell selection and reselection parameters to enable enhanced cell reselection	TEI5	R2	
25.304	137		Rel-6	6.4.0	A	RP-050072	Revised	Correction to cell selection and reselection to enable enhanced cell reselection	TEI5	R2	R2-050731
25.304	137	1	Rel-6	6.4.0	B	RP-050128	Approved	Correction to cell selection and reselection parameters to enable enhanced cell reselection	TEI5	R2	
25.304	138	1	Rel-5	5.7.0	F	RP-050073	Approved	High-mobility measurement rules	TEI5	R2	R2-050744
25.304	139	1	Rel-6	6.4.0	A	RP-050073	Approved	Intra frequency measurement rules for HCS	TEI5	R2	R2-050743
25.306	099	-	Rel-4	4.9.0	F	RP-050065	Approved	Support of DSCH	TEI4	R2	R2-050256
25.306	100	-	Rel-5	5.9.0	A	RP-050065	Approved	Support of DSCH	TEI4	R2	R2-050257
25.306	101	-	Rel-6	6.3.0	A	RP-050065	Approved	Support of DSCH	TEI4	R2	R2-050258

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25.306	102	-	Rel-5	5.9.0	B	RP-050067	Approved	Lossless DL RLC PDU size change	TEI5	R2	R2-050607
25.306	103	-	Rel-6	6.3.0	B	RP-050067	Approved	Lossless DL RLC PDU size change	TEI5	R2	R2-050608
25.306	104	1	Rel-6	6.3.0	B	RP-050085		Inclusion of UE capabilities for Enhanced Uplink	EDCH-L23	R2	R2-050726
25.306	104	2	Rel-6	6.3.0	B	RP-050154	Approved	Inclusion of UE capabilities for Enhanced Uplink	EDCH-L23	R2	
25.306	105	-	Rel-6	6.3.0	C	RP-050083	Approved	Support of ROHC mandatory	RANimp-RABSE	R2	R2-050706
25.306	106	-	Rel-6	6.3.0	B	RP-050143	Rejected	Definition of Six UE categories for Enhanced Uplink	EDCH-L23	R2	
25.309	005	-	Rel-6	6.1.0	B	RP-050115	Approved	Introduction of Details for the scheduling operation, non-scheduled transmission and E-TFC selection	EUDCH-L23	R2	R2-050716
25.321	204	-	Rel-6	6.3.0	F	RP-050078	Approved	Correction to MBMS header for MBMS	MBMS-RAN	R2	R2-050655
25.322	260	1	Rel-6	6.2.0	F	RP-050113	Approved	Correction of MRW termination on reception of ACK SUFI	TEI6	R2	R2-050011
25.322	265	-	Rel-6	6.2.0	F	RP-050113	Approved	Correction to RLC Re-establishment	TEI6	R2	R2-050302
25.322	267	-	Rel-6	6.2.0	F	RP-050113	Approved	CRCLC-Config-Req in LOCAL_SUSPEND State	TEI6	R2	R2-050290
25.322	268	-	Rel-6	6.2.0	F	RP-050113	Approved	Protocol error detection and recovery	TEI6	R2	R2-050291
25.322	269	-	Rel-5	5.9.0	F	RP-050068	Approved	Removal of EPC mechanism	TEI5	R2	R2-050614
25.322	270	-	Rel-6	6.2.0	A	RP-050068	Approved	Removal of EPC mechanism	TEI5	R2	R2-050615
25.322	271	-	Rel-6	6.2.0	F	RP-050082	Approved	Inclusion of transmitter constraints	MBMS-RAN	R2	R2-050651
25.323	058	2	Rel-5	5.2.0	B	RP-050067	Approved	Lossless DL RLC PDU size change	TEI5	R2	R2-050713
25.323	059	2	Rel-6	6.0.0	B	RP-050067	Approved	Lossless DL RLC PDU size change	TEI5	R2	R2-050714
25.331	2488	2	R99	3.21.0	C	RP-050038	Rejected	Removal of TGPL2	TEI	R2	R2-050585
25.331	2489	2	Rel-4	4.16.0	A	RP-050038	Rejected	Removal of TGPL2	TEI	R2	R2-050586
25.331	2490	2	Rel-5	5.11.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R2	R2-050587
25.331	2491	2	Rel-6	6.4.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R2	R2-050588
25.331	2498	-	Rel-5	5.11.0	F	RP-050069	Approved	Minor HSDPA related corrections	HSDPA-L23	R2	R2-050252
25.331	2499	-	Rel-6	6.4.0	A	RP-050069	Approved	Minor HSDPA related corrections	HSDPA-L23	R2	R2-050253
25.331	2500	-	Rel-5	5.11.0	F	RP-050169	Approved	Integrity protection related information in the SRNS relocation info	TEI5	R2	R2-050254
25.331	2501	-	Rel-6	6.4.0	A	RP-050169	Approved	Integrity protection related information in the SRNS relocation info	TEI5	R2	R2-050255
25.331	2502	-	Rel-5	5.11.0	F	RP-050069	Approved	Number of timeslots that can be used for HS-PDSCH resource for 3.84 Mcps TDD	HSDPA-L23	R2	R2-050259
25.331	2503	-	Rel-6	6.4.0	A	RP-050069	Approved	Number of timeslots that can be used for HS-PDSCH resource for 3.84 Mcps TDD	HSDPA-L23	R2	R2-050260
25.331	2504	-	Rel-6	6.4.0	B	RP-050089	Approved	Release 6 HS-DSCH operation without a DL DPCH for 3.84 Mcps TDD	RANimp-RABSE-CodeOPTTDD	R2	R2-050288
25.331	2506	-	Rel-6	6.4.0	F	RP-050114	Approved	Removal of unnecessary cell updates on receiving “Frequency info” IE in CELL UPDATE CONFIRM message	TEI6	R2	R2-050301
25.331	2507	-	Rel-5	5.11.0	F	RP-050069	Approved	ASN.1 clarification on Cell and Channel Identity info for 1.28 Mcps TDD	LCRTDD-L23	R2	R2-050590
25.331	2508	-	Rel-6	6.4.0	A	RP-050069	Approved	ASN.1 clarification on Cell and Channel Identity	LCRTDD-L23	R2	R2-050591

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								info for 1.28 Mcps TDD			
25.331	2509	-	Rel-5	5.11.0	F	RP-050070	Approved	Handling of TM SRB's at radio link failure	TEI5	R2	R2-050592
25.331	2510	-	Rel-6	6.4.0	A	RP-050070	Approved	Handling of TM SRB's at radio link failure	TEI5	R2	R2-050593
25.331	2511	-	Rel-4	4.16.0	F	RP-050066	Approved	Correction of ASN.1 comment concerning OTDOA correction	TEI4	R2	R2-050594
25.331	2512	-	Rel-5	5.11.0	F	RP-050070	Approved	Removal of the UARFCN uplink (Nu) in the informative Annex A.3	TEI5	R2	R2-050596
25.331	2513	-	Rel-6	6.4.0	A	RP-050070	Approved	Removal of the UARFCN uplink (Nu) in the informative Annex A.3	TEI5	R2	R2-050597
25.331	2514	1	Rel-5	5.11.0	F	RP-050070	Approved	Correction on PRACH selection	TEI5	R2	R2-050693
25.331	2515	1	Rel-6	6.4.0	A	RP-050070	Approved	Correction on PRACH selection	TEI5	R2	R2-050694
25.331	2516	3	Rel-5	5.11.0	B	RP-050067	Approved	Lossless RLC PDU size handling	TEI5	R2	R2-050727
25.331	2517	3	Rel-6	6.4.0	B	RP-050067	Approved	Lossless RLC PDU size handling	TEI5	R2	R2-050728
25.331	2518	-	Rel-5	5.11.0	F	RP-050069	Approved	Clarification of GERAN (P)SI message coding in NACC	TEI5	R2	R2-050609
25.331	2519	-	Rel-6	6.4.0	A	RP-050069	Approved	Clarification of GERAN (P)SI message coding in NACC	TEI5	R2	R2-050610
25.331	2520	-	Rel-5	5.11.0	F	RP-050070	Approved	Unsupported RLC mode reconfigurations	TEI5	R2	R2-050612
25.331	2521	-	Rel-6	6.4.0	A	RP-050070	Approved	Unsupported RLC mode reconfigurations	TEI5	R2	R2-050613
25.331	2522	-	Rel-5	5.11.0	F	RP-050070	Approved	Correction to Inter RAT cell info indication	TEI5	R2	R2-050616
25.331	2523	-	Rel-6	6.4.0	A	RP-050070	Approved	Correction to Inter RAT cell info indication	TEI5	R2	R2-050617
25.331	2524	-	Rel-6	6.4.0	F	RP-050086	Approved	Correction to network sharing functionality	NTShar-UTRANEnh	R2	R2-050618
25.331	2525	-	Rel-6	6.4.0	F	RP-050086	Approved	Network sharing corrections	NTShar-UTRANEnh	R2	R2-050619
25.331	2526	1	Rel-6	6.4.0	C	RP-050110	Approved	CN domain specific Access Class Barring	ACBOP	R2	R2-050746
25.331	2527	-	Rel-6	6.4.0	F	RP-050081	Approved	Corrections to "selected PLMN" in access stratum	TEI6, NTShar-UTRANEnh	R2	R2-050633
25.331	2528	-	Rel-6	6.4.0	B	RP-050074	Approved	Introduction of F-DPCH	RANimp-RABSE-CodeOptFDD	R2	R2-050635
25.331	2529	-	Rel-6	6.4.0	F	RP-050084	Approved	Minor E-DCH related corrections	EUDCH-L23	R2	R2-050673
25.331	2530	2	Rel-6	6.4.0	F	RP-050079	Approved	Miscellaneous MBMS corrections	MBMS-RAN	R2	R2-050747
25.331	2532	-	Rel-6	6.4.0	C	RP-050087	Approved	Additional Frequency Bands	UMTS900, UMTS2600	R2	R2-050691
25.331	2534	-	Rel-6	6.4.0	B	RP-050084	Approved	Introduction of E-DCH in the ASN.1	EUDCH-L23	R2	R2-050707
25.331	2535	-	Rel-6	6.4.0	B	RP-050097	Approved	Improvements to uplink closed-loop power control for 1.28Mcps TDD	LCRTDD-L23	R2	R2-050315
25.331	2536	1	Rel-6	6.4.0	F	RP-050079	Approved	MBMS Corrections to 25.331 ASN.1	MBMS-RAN	R2	R2-050748
25.331	2537	-	Rel-5	5.11.0	F	RP-050072	Revised	Correction to cell selection and reselection to enable enhanced cell reselection	TEI5	R2	R2-050732
25.331	2537	1	Rel-5	5.b.0	B	RP-050128	Approved	Correction to cell selection and reselection parameters to enable enhanced cell reselection	TEI5	R2	

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25.331	2538	-	Rel-6	6.4.0	A	RP-050072	Revised	Correction to cell selection and reselection to enable enhanced cell reselection	TEI5	R2	R2-050733
25.331	2538	1	Rel-6	6.4.0	B	RP-050128	Approved	Correction to cell selection and reselection parameters to enable enhanced cell reselection	TEI5	R2	
25.346	010	-	Rel-6	6.3.0	F	RP-050080	Approved	Introduction of MBMS Frequency dispersion	MBMS-RAN	R2	R2-050657
25.346	011	-	Rel-6	6.3.0	F	RP-050080	Approved	Correction on MBMS multiplexing and soft combining in TDD	MBMS-RAN	R2	R2-050658
25.346	012	-	Rel-6	6.3.0	F	RP-050080	Approved	Clarification to UE capabilities to consider MCCH reception and selective/soft combining requirements	MBMS-RAN	R2	R2-050649
25.346	013	-	Rel-6	6.3.0	F	RP-050080	Approved	Extending the counting procedure for UEs in CELL_PCH/FACH state and introducing UE initialised p-t-p setup request	MBMS-RAN	R2	R2-050647
25.346	015	-	Rel-6	6.3.0	F	RP-050080	Approved	Introduction of new procedures in MBMS stage 2 spec	MBMS-RAN	R2	R2-050709
25.402	046		Rel-6	6.1.0	B	RP-050056	Approved	Introduction of Fractional DPCH	RANimp-RABSE-CodeOptFDD	R3	R3-050185
25.413	721	3	Rel-6	6.4.1	F	RP-050057	Approved	MBMS Session Repetition Number on Session Start	MBMS-RAN	R3	R3-050353
25.413	724	3	Rel-6	6.4.1	F	RP-050057	Approved	MBMS RAB Management	MBMS-RAN	R3	R3-050365
25.413	729	2	Rel-5	5.10.0	F	RP-050052	Approved	Essential Correction on Direct Transfer Messages	TEI5	R3	R3-050348
25.413	730	2	Rel-6	6.4.1	A	RP-050052	Approved	Essential Correction on Direct Transfer Messages	TEI5	R3	R3-050349
25.413	731	2	Rel-5	5.10.0	F	RP-050052	Approved	Correction of RANAP Containers and CRRM	TEI5	R3	R3-050344
25.413	734		Rel-6	6.4.1	F	RP-050057	Approved	MBMS Contexts	MBMS-RAN	R3	R3-050182
25.413	737	3	Rel-6	6.4.1	F	RP-050057	Approved	MBMS IE codings	MBMS-RAN	R3	R3-050362
25.413	738		Rel-6	6.4.1	F	RP-050057	Approved	MBMS Session Failure	MBMS-RAN	R3	R3-050219
25.413	739	2	Rel-6	6.4.1	B	RP-050059	Approved	Support of Network-initiated Scudif (revision of R3-041734)	TEI6	R3	R3-050357
25.413	740	1	Rel-6	6.4.1	A	RP-050052	Approved	Correction of RANAP Containers and CRRM	TEI5	R3	R3-050345
25.415	122	3	Rel-5	5.4.0	F	RP-050052	Approved	Negative Acknowledgement of Init procedure	TEI5	R3	R3-050358
25.415	123	2	Rel-6	6.1.0	A	RP-050052	Approved	Negative acknowledgment of Init procedure	TEI5	R3	R3-050341
25.415	124	1	Rel-6	6.1.0	F	RP-050060	Revised	Clarification of Initialisation and Rate Control for Iu user plane version	TEI6	R3	R3-050301
25.415	124	2	Rel-6	6.1.0	F	RP-050118	Revised	Clarification of Initialisation and Rate Control for Iu user plane version	TEI6	R3	
25.415	124	3	Rel-6	6.1.0	F	RP-050136	Approved	Clarification of Initialisation and Rate Control for Iu user plane version one	TEI6	R3	
25.420	047		Rel-6	6.2.0	B	RP-050056	Approved	Introduction of Fractional DPCH	RANimp-RABSE-CodeOptFDD	R3	R3-050186
25.423	1021	3	Rel-6	6.4.1	F	RP-050057	Approved	Optimisation of MBMS channel type indication via Iur	MBMS-RAN	R3	R3-050354
25.423	1022	1	R99	3.14.2	C	RP-050038	Rejected	Removal of TGPL2	TEI	R3	R3-050246

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25.423	1023	1	Rel-4	4.12.1	A	RP-050038	Rejected	Removal of TGPL2	TEI	R3	R3-050247
25.423	1024	1	Rel-5	5.12.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R3	R3-050248
25.423	1025	1	Rel-6	6.4.1	C	RP-050038	Approved	Removal of TGPL2	TEI5	R3	R3-050249
25.423	1026		Rel-5	5.12.0	F	RP-050053	Approved	Wrong HS IE referenced	HSDPA-Iublur	R3	R3-050084
25.423	1027		Rel-6	6.4.1	A	RP-050053	Approved	Wrong HS IE referenced	HSDPA-Iublur	R3	R3-050085
25.423	1028		Rel-5	5.12.0	F	RP-050054	Approved	Measurement Power Offset IE procedure text missing	TEI5	R3	R3-050088
25.423	1029		Rel-6	6.4.1	A	RP-050054	Approved	Measurement Power Offset IE procedure text missing	TEI5	R3	R3-050089
25.423	1034	1	Rel-6	6.4.1	F	RP-050058	Approved	Correction of RNSAP E-DCH IEs	EDCH-Iurlub	R3	R3-050334
25.423	1035	2	Rel-6	6.4.1	F	RP-050057	Approved	MBMS Identifiers Retrieval	MBMS-RAN	R3	R3-050363
25.423	1036	1	Rel-6	6.4.1	B	RP-050056	Approved	Introduction of Fractional DPCH	RANimp-RABSE-CodeOptFDD	R3	R3-050276
25.423	1037		Rel-6	6.4.1	B	RP-050059	Approved	Initial Radio Link Timing Adjustment	TEI6	R3	R3-050191
25.423	1038	1	Rel-5	5.12.0	F	RP-050053	Approved	Clarification on HS-DSCH Information IE	TEI5	R3	R3-050335
25.423	1039		Rel-6	6.4.1	F	RP-050058	Approved	EDCH RNSAP ASN.1	EDCH-Iurlub	R3	R3-050216
25.423	1040		Rel-5	5.12.0	F	RP-050053	Approved	Interaction between Synchronised RL Reconfiguration and RL Deletion	TEI5	R3	R3-050222
25.423	1041		Rel-6	6.4.1	A	RP-050053	Approved	Interaction between Synchronised RL Reconfiguration and RL Deletion	TEI5	R3	R3-050223
25.423	1042	2	Rel-6	6.4.1	C	RP-050095	Postponed	Timing maintanied hard HO	TEI6	R3	R3-050368
25.423	1043		Rel-6	6.4.1	A	RP-050053	Approved	Clarification on HS-DSCH Information IE	TEI5	R3	R3-050336
25.427	096		Rel-5	5.3.0	F	RP-050054	Approved	Reference for QE mapping is incorrect	TEI5	R3	R3-050092
25.427	097		Rel-6	6.1.0	A	RP-050054	Approved	Reference for QE mapping is incorrect	TEI5	R3	R3-050093
25.427	099	2	Rel-6	6.1.0	F	RP-050119	Rejected	EDCH Frame format update	EDCH-Iurlub	R3	R3-050366
25.427	102		Rel-6	6.1.0	F	RP-050121		EDCH Frame format update	EDCH-Iurlub	R3	
25.427	102	1	Rel-6	6.1.0	F	RP-050137	Approved	E-DCH Frame format update	EDCH-Iurlub	R3	
25.430	059		Rel-6	6.3.0	B	RP-050056	Approved	Introduction of Fractional DPCH	RANimp-RABSE-CodeOptFDD	R3	R3-050188
25.433	1068		Rel-6	6.4.0	F	RP-050059	Approved	Measurement Recovery Behavior in Dedicated Measurement Procedures	TEI6	R3	R3-050069
25.433	1069		Rel-5	5.11.0	F	RP-050054	Approved	Availability Status reference correction	TEI5	R3	R3-050070
25.433	1070		Rel-6	6.4.0	A	RP-050054	Approved	Availability Status reference correction	TEI5	R3	R3-050071
25.433	1071	1	R99	3.14.2	A	RP-050038	Rejected	Removal of TGPL2	TEI	R3	R3-050250
25.433	1072	1	Rel-4	4.13.0	A	RP-050038	Rejected	Removal of TGPL2	TEI	R3	R3-050251
25.433	1073	1	Rel-5	5.11.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R3	R3-050252
25.433	1074	1	Rel-6	6.4.0	C	RP-050038	Approved	Removal of TGPL2	TEI5	R3	R3-050253
25.433	1075		Rel-5	5.11.0	F	RP-050053	Approved	Wrong HS IE referenced	HSDPA-Iublur	R3	R3-050086
25.433	1076		Rel-6	6.4.0	A	RP-050053	Approved	Wrong HS IE referenced	HSDPA-Iublur	R3	R3-050087
25.433	1077		Rel-5	5.11.0	F	RP-050054	Approved	Measurement Power Offset IE optionality at HS-DSCH setup	TEI5	R3	R3-050090

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Spec	CR	Rev	Phase	Curr Ver	Cat	Doc 1st-Level	Status 1st-Level	Subject	Work Item	WG	Doc 2nd-Level
25.433	1078		Rel-6	6.4.0	A	RP-050054	Approved	Measurement Power Offset IE optionality at HS-DSCH setup	TEI5	R3	R3-050091
25.433	1080	1	Rel-6	6.4.0	B	RP-050050	Approved	Introduction of 'DL Transmission Branch Load' measurement	TEI6	R3	R3-050300
25.433	1081	2	Rel-6	6.4.0	F	RP-050058	Approved	E-DCH NBAP ASN.1	EDCH-IurIub	R3	R3-050359
25.433	1082	1	Rel-6	6.4.0	B	RP-050056	Approved	Introduction of Fractional DPCH	RANimp-RABSE-CodeOptFDD	R3	R3-050277
25.433	1083		Rel-6	6.4.0	B	RP-050059	Approved	Initial Radio Link Timing Adjustment	TEI6	R3	R3-050192
25.433	1084	1	Rel-5	5.11.0	F	RP-050053	Approved	Clarification on HS-DSCH Information IE	TEI5	R3	R3-050337
25.433	1085	2	Rel-6	6.4.0	B	RP-050062	Approved	HSDPA Code Allocation/Measurement per Cell Portion	RANimp-BFE	R3	R3-050317
25.433	1086		Rel-5	5.11.0	F	RP-050053	Approved	Interaction between Synchronised RL Reconfiguration and RL Deletion	TEI5	R3	R3-050224
25.433	1087		Rel-6	6.4.0	A	RP-050053	Approved	Interaction between Synchronised RL Reconfiguration and RL Deletion	TEI5	R3	R3-050225
25.433	1088	2	Rel-6	6.4.0	C	RP-050095	Postponed	Timing maintained hard HO	TEI6	R3	R3-050367
25.433	1089		Rel-6	6.4.0	A	RP-050053	Approved	Clarification on HS-DSCH Information IE	TEI5	R3	R3-050338
25.433	1090	1	Rel-6	6.4.0	F	RP-050127	Revised	Time Alignment in MBMS transmission channels	TEI6	Siemens	R3-050364
25.433	1090	2	Rel-6	6.4.0	C	RP-050148	Rejected	Time alignment in MBMS transmission channels	MBMS-RAN	R3	
25.453	077	1	Rel-5	5.9.0	F	RP-050055	Approved	Corrections to descriptions of GPS Almanac and Ephemeris fields	TEI5	R3	R3-050261
25.453	078	1	Rel-6	6.7.0	A	RP-050055	Approved	Corrections to descriptions of GPS Almanac and Ephemeris fields	TEI5	R3	R3-050262
25.460	003		Rel-6	6.1.0	D	RP-050061	Approved	Editorial Corrections to 25.460 after RAN3#45	RANimp-TiltAnt	R3	R3-050153
25.461	007	1	Rel-6	6.1.0	F	RP-050061	Approved	Minor Corrections and editorial changes to 25.461	RANimp-TiltAnt	R3	R3-050278
25.461	008	1	Rel-6	6.1.0	F	RP-050061	Approved	Power consumption clarification of RET	RANimp-TiltAnt	R3	R3-050265
25.461	009		Rel-6	6.1.0	F	RP-050061	Approved	Modem Operating Bands	RANimp-Tilt	R3	R3-050291
25.461	010		Rel-6	6.1.0	F	RP-050061	Approved	Modem Return loss	RANimp-Tilt	R3	R3-050292
25.461	011		Rel-6	6.1.0	F	RP-050061	Approved	Modem Time Delay and Accuracy	RANimp-Tilt	R3	R3-050293
25.461	012		Rel-6	6.1.0	F	RP-050061	Approved	Modem Insertion Loss	RANimp-Tilt	R3	R3-050294
25.462	006	1	Rel-6	6.1.0	D	RP-050061	Approved	Editorial Corrections to 25.462 after RAN3#45	RANimp-TiltAnt	R3	R3-050266
25.462	007	1	Rel-6	6.1.0	F	RP-050061	Approved	Correction of definition of Secondary Payload Transmit/Receive Length	RANimp-TiltAnt	R3	R3-050267
25.462	008		Rel-6	6.1.0	F	RP-050061	Approved	Clarification on HDLC Parameter Negotiation	RANimp-TiltAnt	R3	R3-050157
25.462	011	1	Rel-6	6.1.0	F	RP-050061	Approved	Correction of address assignment example	RANimp-TiltAnt	R3	R3-050269
25.462	013		Rel-6	6.1.0	C	RP-050061	Approved	Reset in transport layer	RANimp-TiltAnt	R3	R3-050272
25.462	014	1	Rel-6	6.1.0	C	RP-050061	Approved	Clarification on unique ID and device scan	RANimp-TiltAnt	R3	R3-050342
25.463	020		Rel-6	6.1.0	D	RP-050061	Approved	Wrong numbering in table 6.7.6.2	RANimp-TiltAnt	R3	R3-050055
25.463	023	1	Rel-6	6.1.0	D	RP-050061	Approved	Editorial Corrections to 25.463 after RAN3#45	RANimp-TiltAnt	R3	R3-050270
25.463	024		Rel-6	6.1.0	F	RP-050061	Approved	Minor Corrections to 25.463 after RAN3#45	RANimp-TiltAnt	R3	R3-050158
25.463	025	2	Rel-6	6.1.0	F	RP-050061	Approved	Clarification on antenna movement during Set Tilt	RANimp-TiltAnt	R3	R3-050287

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Spec	CR	Rev	Phase	Curr Ver	Cat	Doc 1st-Level	Status 1st-Level	Subject	Work Item	WG	Doc 2nd-Level
25.463	026	1	Rel-6	6.1.0	C	RP-050061	Approved	Redefinition or the Software Reset procedure	RANimp-TiltAnt	R3	R3-050271
25.931	025	1	Rel-6	6.0.0	B	RP-050057	Approved	Signalling flows for MBMS	MBMS-RAN	R3	R3-050284
25.942	018		Rel-6	6.3.0	F	RP-050041	Approved	Scenarios for UE Receiver Blocking Specification	TEI6	R4	R4-050104
25.993	036	-	Rel-6	6.7.0	F	RP-050064	Approved	Addition of asymmetric RAB-combinations with voice	TEI6	R2	R2-050589
25.993	037	-	Rel-6	6.8.0	F	RP-050071	Approved	AMR-WB reference RAB configurations	TEI6	R2	R2-050611
29.108	017		Rel-6	6.1.0	B	RP-050120	Approved	Full RANAP support of network initiated SCUDIF	TEI6	R3	
TS 25.331	2539	-	Rel-6	6.4.0	B	RP-050134	Postponed	Faster L1 DCH synchronization	TEI6	R2	
TS 25.331	2540	-	Rel-6	6.4.0	B	RP-050135	Postponed	Timing Maintained Hard Handover	TEI6	R2	

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Annex D: Summary of TSG RAN Work Items

RAN Work Items Update after meeting #27.

Abbreviations used: %: Level of completion; WI: Work Item; SI: Study Item; Feat: Feature; BB: Building Block; FS: Feasibility Study; WT: Work Task; WIDS: WI Description Sheet

Type	WI Name	WI Code	Lead	%	Finish Date	Remarks
Feat	Rel-6 Improvements of Radio Interface	RInImp	RP		June 2005	Generic feature
BB	Improved Receiver Performance Requirements for HSDPA	RInImp-HSPerf	R4		June 2005	
WT	Performance Requirements of Receive Diversity for HSDPA	RInImp-HSPerf-RxDiv	R4	100	March 2005	Status Report in RP-050004 WI completed
WT	Improved Minimum Performance Requirements for HSDPA UE categories 7 and 8	RInImp-HSPerf-10code	R4	50	June 2005	Status Report in RP-050005
Feat	Rel-6 RAN improvements	RANimp	RP		March 2005	Generic feature
BB	RAB support enhancement	RANimp-RABSE	R2	85	June 2005	Status Report in RP-050010 Completion date moved from March 2005
WT	Optimisation of downlink channelisation code utilisation	RANimp-RABSE-CodeOptFDD	R1	100	March 2005	Status Report in RP-050011 WI completed
WT	Optimisation of channelisation code utilisation for 3.84 Mcps TDD	RANimp-RABSE-CodOptTDD	R1	100	March 2005	Status Report in RP-050012 WI completed
BB	Introduction of MBMS in RAN	MBMS-RAN	R2		September 2005	
WT	UE Performance Requirements for MBMS	MBMS-RAN-RF	R4	20	September 2005	Status Report in RP-050015
New WT	UE Performance Requirements for MBMS (TDD)	MBMS-RAN-RF-TDD	R4	0	March 2006	New Item, WIDS in RP-050156
Feat	FDD Enhanced Uplink	EDCH	RP	69	June 2005	Status Report in RP-050016
BB	FDD Enhanced Uplink - Stage 2	EDCH-Stage2	R2	100	December 2004	WI completed
BB	FDD Enhanced Uplink - Physical Layer	EDCH-Phys	R1	100	March 2005	WI completed
BB	FDD Enhanced Uplink - Layer 2 and 3 Protocol Aspects	EDCH-L23	R2	100	March 2005	WI completed
BB	FDD Enhanced Uplink - UTRAN Iub/Iur Protocol Aspects	EDCH-IurIub	R3	100	March 2005	WI completed
BB	FDD Enhanced Uplink - RF Radio Transmission/ Reception, System Performance Requirements and Conformance Testing	EDCH-RF	R4	35	June 2005	
Feat	Rel-7 Improvements of the Radio Interface	RInImp	RP	3	December 2005	Generic feature
BB	UMTS 2.6 GHz	RInImp-UMTS2600	R4	60	June 2005	Status Report in RP-050006
BB	UMTS 2.6 GHz TDD	RInImp-	R4	5	December 2005	Status Report in RP-050007

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Type	WI Name	WI Code	Lead	%	Finish Date	Remarks
		UMTS2600TDD				
BB	UMTS 900 MHz	RInImp-UMTS900	R4	10	December 2005	Status Report in RP-050008 Completion date moved from September 2005
BB	UE Antenna Performance Evaluation Method and Requirements	RInImp-UEAnt	R4	20	September 2005	Status Report in RP-050009 WIDS revised in RP-050122
New BB	Improved support of IMS Realtime Services using HSDPA/EDCH		R2	0	December 2005	New Item, WIDS in RP-050160
Feat	Rel-7 RAN improvements	RANimp	RP		September 2005	Generic feature
WT	Optimisation of channelisation code utilisation for 1.28 Mcps TDD	RANimp-RABSE-CodOptLCRTDD	R1	35	September 2005	Status Report in RP-050013
New BB	CS and PS Call Setup Delay Improvement		R2	0	December 2005	New Item, WIDS in RP-050162
BB	UE positioning Rel-7	LCS3-UEpos	RP		June 2006	
WT	Inclusion of Uplink TDOA UE positioning method in the UTRAN specifications	LCS3-UEPos-UTDOA	R2	20	June 2006	Status Report in RP-050014
Feat	Multiple Input Multiple Output antennas (MIMO)	MIMO	R1	12	December 2005	Work Item on hold
BB	MIMO - Physical layer	MIMO-Phys	R1	60	March 2005	
BB	MIMO - Layer 2,3 aspects	MIMO-L23	R2	0	December 2005	
BB	MIMO - Iub/Iur Protocol Aspects	MIMO-Iurlub	R3	0	December 2005	
BB	MIMO - RF Radio Transmission/Reception, System Performance Requirements and Conformance Testing	MIMO-RF	R4	5	December 2005	
Feat	7.68Mcps TDD option	VHCRTDD	RP	5	March 2006	Status Report in RP-050017
BB	7.68Mcps TDD option: Stage 2	VHCRTDD-Stage2	R1	5	September 2005	
BB	7.68Mcps TDD option: Physical Layer	VHCRTDD-Phys	R1	5	September 2005	
BB	7.68Mcps TDD option: Layer 2 and layer 3 protocol aspects	VHCRTDD-L23	R2	0	September 2005	
BB	7.68Mcps TDD option: UTRAN Iub/Iur Protocol Aspects	VHCRTDD-Iurlub	R3	5	September 2005	
BB	7.68Mcps TDD option: RF Radio Transmission/ Reception, System Performance Requirements and Conformance Testing	VHCRTDD-RF	R4	10	March 2006	
New Feat	3.84 Mcps TDD Enhanced Uplink	EDCHTDD	RP	0	June 2006	New Item, WIDS in RP-050100
	3.84 Mcps TDD Enhanced Uplink: Stage 2	EDCHTDD-Stage2	R2		December 2005	
	3.84 Mcps TDD Enhanced Uplink: Physical Layer	EDCHTDD-Phys	R1	0	March 2006	
	3.84 Mcps TDD Enhanced Uplink: Layer 2 and 3 Protocol Aspects	EDCHTDD-L23	R2	0	March 2006	
	3.84 Mcps TDD Enhanced Uplink: UTRAN Iub/Iur Protocol Aspects	EDCHTDD-Iurlub	R3	0	March 2006	
	3.84 Mcps TDD Enhanced Uplink: RF Radio Transmission/	EDCHTDD-RF	R4	0	June 2006	

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Type	WI Name	WI Code	Lead	%	Finish Date	Remarks
	Reception, System Performance Requirements and Conformance Testing					
SI	FS on Uplink enhancements for UTRA TDD	RInImp-FSUpEnhTDD	R1	100	March 2005	Status Report in RP-050019
SI	FS on Evolved UTRA and UTRAN	RANFS-Evo	RP	5	June 2006	Status Report in RP-050018
New SI	Performance Evaluation of the UE behaviour in high speed trains with speeds up to 350 kmph		R4	0	December 2005	New Study, WIDS in RP-050146

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Annex E: Meeting schedule

TSG RAN meetings

Meeting #	Date	Host	Location
28	1 - 3 June 2005	North American Friends of 3GPP	Quebec, Canada
29	21 - 23 September 2005	European Friends of 3GPP	Tallinn, Estonia
30	30 Nov. - 2 Dec. 2005	European Friends of 3GPP	Malta
31	08 – 10 March 2006		China
32	31 May - 2 Jun 2006		
33	20 - 22 Sep 2006		
34	29 Nov - 1 Dec 2006		

TSG RAN WG1 meetings

Meeting #	Date	Host	Location
40bis	4-8 April 2005	Huawei	Beijing, China
41	09-13 May 2005	European Friends of 3GPP	Athens, Greece
42	29 Aug – 02 Sept 2005	European Friends of 3GPP	London, UK
43	07-11 November 2005	Samsung	Korea

TSG RAN WG2 & WG3 meetings

Meeting #	Date	Host	Location
47	09-13 May 2005	European Friends of 3GPP	Athens, Greece
48	29 Aug – 02 Sept 2005	European Friends of 3GPP	London, UK
49	07-11 November 2005	Samsung	Korea

RAN WG2 #46bis: 4-8 April 2005, Beijing, China, hosted by Huawei.
RAN WG2 #48bis: 10 – 14 October 2005, Cannes, France, hosted by EF3.
RAN WG3 RET Ad Hoc: 05 – 06 April 2005, Stockholm, Sweden, hosted by Powerwave.
RAN WG3 #48bis: 10 – 14 October 2005, Cannes, France, hosted by EF3.

TSG RAN WG4 meetings

Meeting #	Date	Host	Location
AH MBMS/EDCH	4 – 6 April	ETSI	Sophia Antipolis, France
35	09-13 May 2005	European Friends of 3GPP	Athens, Greece
36	29 Aug – 02 Sept 2005	European Friends of 3GPP	London, UK
37	07-11 November 2005	Samsung	Korea

TSG RAN WG5 meetings

Meeting #	Date	Host	Location
27	25 - 29 Apr 2005	Aeroflex	Bath, UK
28	22 - 26 Aug 2005	European Friends of 3GPP	Berlin, Germany
29	7 – 11 November 2005	Samsung	Korea

Note: RAN WG5 meeting numbering carries on the numbering of T WG1.

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Annex F List of actions

- TSG RAN chairman to forward the LS in RP-0500031 to the chairman of ECC PT1 (RP-050031).
- TSG RAN chairman to raise in TSG SA the issue of the misalignment amongst RAN WG2 and CN specifications on the issue of the inter-system HO authentification (RP-050033).
- RAN WG1, WG2, WG3 & WG4 to start discussions on removal of the features in RP-050144 as soon as possible and to produce the CRs for the next meeting.
- TSG RAN ITU-R Ad Hoc to produce the first version of the contribution to Q.223 on IP Solutions and WGs to review and contribute to the document, following the schedule in section 8.1.
- RAN WG4 to review the CR in RP-050094 and to check the contradiction with TS25.101.
- TSG RAN chairman to present the new WI Sheet for UE Antenna Performance in TSG SA, as a way of coordination with TSG GERAN (RP-050122)
- RAN WG3 to review RP-050148 and RAN WG2 to produce the associated CR to its specifications.
- RAN WG1, WG2, WG3 & WG4 to take into account the agreed removal of RAKE combining for MBMS reception and to modify their specifications accordingly (section 9.4)
- RAN WG2 to reduce unnecessary options for EDCH scheduling and come for the next RAN Plenary with a Stage 2 where no functionalities shall be unnecessarily duplicated (section 9.6.1)

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APPENDIX 23

www.3gpp.org / ftp / Specs / archive / 25_series / 25.322

sort by name/desc	sort by date/desc	sort by size/desc
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25322-600.zip	2004/01/08 11:25	294,5 KB
25322-610.zip	2004/06/16 14:28	325,2 KB
25322-620.zip	2004/12/21 12:37	347,6 KB
25322-630.zip	2005/03/22 9:39	335 KB
25322-640.zip	2005/06/30 15:15	339,1 KB
25322-650.zip	2005/10/12 17:54	350 KB
25322-660.zip	2005/12/22 9:45	342 KB
25322-670.zip	2006/04/07 8:03	358,6 KB
25322-680.zip	2006/06/20 20:55	352,1 KB
25322-690.zip	2006/10/17 11:17	363,7 KB
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25322-6b0.zip	2008/03/20 15:42	356,1 KB
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25322-710.zip	2006/06/20 20:55	357 KB

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25322-e00.zip	2017/03/23 14:21	364,8 KB
25322-f00.zip	2018/06/27 15:38	365,5 KB
25322-g00.zip	2020/07/18 21:08	365,9 KB
25322-h00.zip	2022/04/08 19:37	367,4 KB

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sort by name/desc	sort by date/desc	sort by size/desc
25322-i00.zip	2024/04/04 17:54	368,2 KB

99 items.

Petitioners' Exhibit 1006, p. 454
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