

Source: TSG SA WG2 Chairman: Teuvo Järvelä, Nokia.
and TSG SA WG2 Secretary: Alain Sultan, ETSI.
Title: SA2 Status Report
Agenda Item: 5.2.1

SA2 Status Report

1. General

1.1. Meetings since SA#5

SA2 has met twice:

SA2#9: 25th to 29th of October, hosted by a consortium of UK companies at London, UK

SA2#10: 29th of November to 3rd of December, hosted by NEC at Abiko, Japan

A lot of work has been handled by e-mail under the supervision of Mr. Hiramatsu, TSG-S2 Vice-Chairman.

1.2. Activities of the S2 ad-hocs

The only remaining S2 ad-hoc which is the MIP ad-hoc, has successfully finished its activities by creating the TR 23.923, presented for approval in SP-99536. The next step is to incorporate the results of this TR in the TSs, in particular in 23.060.

In the future, S2 is not planing to have ad-hoc groups established on a long-term basis but to establish drafting groups, meeting once, and which creation is decided on a case-by-case basis.

1.3. SA2 statistics

The number of participant at each meeting is higher than 80, and more than 500 people are registered on the SA2 e-mail list (on December 1999).

Since SA plenary #5, SA2 has handled 490 temporary documents

In 1999, SA2 has handled around 1550 tdocs

Liaison Statements since previous TSG-SA Plenary:

SA2 has received 82 LSs

SA2 has sent 46 LSs

2. Technical progress

2.1. Technical discussions

The main technical discussions at SA2 meetings since previous TSG-SA Plenary were on:

2.1.1. Refinements on 23.060

This includes clarifications on:

- SRNS relocation mechanism
- charging record recollection mechanism

2.1.2. Refinements on QoS handling

Lot of progress has been made to this respect, including mapping of QoS Parameters between GPRS R97/98 and UMTS R99 (to be used at inter-system handover)

In addition, some dedicated drafting meetings were held on:

- CBS Stage 2
- LCS Stage 2
- VHE/OSA Stage 2

3. Involvement of SA2/SMG12 in GSM matters

- SMG12 is responsible for 03.56 and 03.73: no action on 03.56; CRs on 03.73 approved by SMG#30
- SA2 is responsible for 03.60 and 23.060: CRs presented to SA#6
- SMG12 is responsible for 03.71, SA2 responsible for 23.171
- SA2 is responsible for 03.32 and 23.032 (no action on them)
- For information: 03.03 and 23.003 are under TSG_CN responsibility.

4. Work co-ordination of 3GPP

The results of the six Inter-Group Co-ordination ad-hoc (IGCs), listed bellow, are reported in the following sub-sections.

- Bearer Services and QoS
- GSM/UMTS Interoperation and Mobility Management
- LCS and CBS
- Packet Architecture and Circuit Architecture
- Security
- Services and Service platforms

4.1. Bearer Services and QoS (Oscar-Lopez Torres, T-Mobil)

Involved 3GPP WGs: SA1, SA2, RAN1, RAN2, RAN3, CN1, CN2, CN3, and T2

The main results are:

TS 23.107, QoS Architecture, was Approved on Week 43

TS 23.107 was sent to the involved WGs for comments

The WGs need to check the value ranges of QoS parameters in 23.107, to assess realistic target values

The QoS parameter mapping work has started in SA2

SA2 encourages SA1, SA4, RAN3, and T2 to actively participate in the parameter mapping for Rel. 00

The QoS Architecture for Rel. 00 need to cover both, the circuit and the packet switched domain

4.2. GSM/UMTS Interoperation and Mobility Management (Francois Courau, Alcatel)

The main results are:

- at SMG2: Work has started work estimated to be completed for February 00
- at RAN: Work has started. Completion expected for March 00
- at CN: Work has started completion date expected March 00
- at S1: The work is completed

4.3. LCS (Jan Käll, Nokia)

The project plan is based on inputs from S2, S5, R2, R3

No reply so far from S1, S3

4.3.1. UMTS-LCS specifications in Release 99

There is a common Stage 1 for UMTS and GSM (preliminary UMTS content) in TS 22.071 (ready)

The UMTS LCS System Stage 2, TS 23.171 is based on GSM 03.71 (to be completed by March 2000)

There will be a separate UTRAN internal LCS Stage 2, TS 25.305

In addition the LCS measurements, the Iu, Iur and Iub support for LCS are included in corresponding 3GPP UMTS specifications R99.

4.3.2. UMTS-LCS in release 99 and/or release 2000?

The complete set of UMTS LCS specifications (stage 3) is to be completed during 2000.

4.3.3. Common specifications for LCS in GSM and UMTS?

The goal is to maximize synergies between LCS in GSM and UMTS. GSM LCS will also be enhanced during 2000.

UMTS has less options in LCS architecture than GSM. (SMLC functionality in SRNC)

Common parts of GSM LCS and UMTS LCS could be developed in 3GPP

Should be studied if possible to make Stage 3 common for GSM and UMTS in release 2000 (or later)

4.3.4. Organizing the work on LCS in 3GPP in year 2000

Ad hocs/work shop meetings on LCS should be arranged during 2000. These ad hocs/work shops could be 3GPP wide or in related WGs.

4.4. CBS (Martin Guntermann, Mannesman)

The CBS work was judged has being feasible to be completed by March 2000.

4.4.1. CBS specifications completed in 1999:

S1 work on the stage1 requirements is finished

S2 approved the architecture requirements for Release 99

T2 approved the basic requirements for the CBC-RNC protocol

RAN2 has completed the specification work on the radio interface

4.4.2. Work to be completed until March 2000:

S2 adaptation for the network architecture and for the modelling of services of the access stratum

RAN3 specification of the CBC/RNC protocol

T2 refinements of the protocol requirements in arrangement with RAN3

4.4.3. Open Issue:

SA5 Fault management integration of CBC

4.5. Technical scope of PS and CS Architecture IGC (Ulrich Dropmann, Siemens)

Overall architecture

Determination of principle protocol stacks of user and control plane

Call Control, session management related issues

4.5.1. Involved groups

Feedback received: R2, R3, N1, N2, N3_Packet, S4, N3_Circuit

Feedback pending: T2

Groups not contacted: R1, R4, T1, T3

4.5.2. Critical issues

Progress on Critical issues identified for TSG-SA#5 should be updated into the plan
Classmark issues (CS&PS, HO handling with GSM/GPRS) are not sufficiently addressed
(several groups involved)

In core network (N1) changes to 24.008 as due to the removal of LLC and stream identifier
concept are essential for R99. In case of timing problem, multicall could be moved to future
releases.

4.6. Security (Chris Pudney, Vodafone)

Complete in December 1999 with corrections envisaged over next few months:

authentication and key agreement

access link integrity protection

access link confidentiality

secure GSM-UMTS interoperation

4.6.1. Not complete in December 1999 but planned for completion by March 2000:

MAP security (see LS from S3, joint meeting 6/7 Jan, N2/S3)

enhanced user identity confidentiality ? - impact on UTRAN and CN is still unclear

4.6.2. S3 propose to review all the relevant specifications for all the security work
topics on completion of tasks by TSGs

Ensure that S3 security features are properly implemented in the R99 specifications

Identify where corrective CRs are required

4.6.3. IP security: re-named mobile IP security for R99

It is stated that mobile IP security is provided independently to the 3G security architecture in
R99

further study for Release 2000

- profiling of IETF application security solutions for mobile environment
- mapping of 3G access security features to "all-IP" network

4.6.4. Network-wide encryption: concern that not all the hooks may be in place

corrective CRs to be identified during review process

4.7. Services and service platforms (Rob Scmersel, Ericsson)

OSA/VHE Stage 2 TS 23.127 v1.1.0, planned completion date March 2000

VHE stage3 needs to be discussed by TSG-CN (R99/R00?).

Plan concentrated on OSA/VHE issues and do not cover currently the issues related to
services

5. Main technical discussions and decisions for R00

5.1. Creation of a new TR on Release 2000 Architecture (TR 23.821)

Aim: provide guidelines for the Release 2000 Architecture. Not intended to be published.

Intended date of completion: March 2000

5.2. Schedule for R00

S2 R00 work 50 % or more mature for SA #7 (v.1.0.0)

S2 Project Plan work for R00 (target date: SA #7)

S2 R00 work 80 % or more mature for SA #8 (v.3.0.0)

S2 R00 work finalised by SA #9

6. S2 meeting dates for year 2000

TSG-S2#11	January 24-28, 2000. Hosted in Mexico by T1P1
TSG-S2#12	March 6-9, 2000 - host needed
TSG-S2#13	May 22-26, 2000 - potential host
TSG-S2#14	September 4-8, 2000 - potential host
TSG-S2#15	November 13-17, 2000 - host needed

7. Approval of one new document

TR 23.923 v.2.0.0, Combined GSM and Mobile IP Mobility Handling in UMTS IP CN, in SP-99536

For information:

The activities on TR 23.920 (“ open issues for R99”) are stopped after SA #6. TR 23.920 is not intended to be published.

8. Information on the status of the S2 TS applicable to Release 99

8.1. TS 23.002 v.3.1.0 on Network Architecture, in SP-99537

The expected completion date is TSG SA#7.

At least the following issues are not yet covered:

- Inclusion of CAMEL aspects (already missing in 03.02 v.6 and v.7)
- Inclusion of CBS aspects (already missing in 03.02 v.6 and v.7)
- Update of some references, in particular to RAN TSs
- possible update of terminology needed (for UE/MS)

8.2. TS 23.032 on Universal Geographical Area Description (GAD)

No information

8.3. TS 23.060 v.3.1.0 on General Packet Radio Service (GPRS); Service description; Stage 2, in SP-99538

The expected completion date is TSG SA#7. Open issues:

- Shall anonymous access be supported for UMTS or GPRS 99? An LS has been sent to S1 to ask for guidance.
- Subclause 6.8.4: Shall the MS be able to send its IMSI encrypted? This issue is still being discussed in S3.
- Subclause 9.3: Shall the max N-PDU size be different from 1500 octets?
- Subclause 12.1.1: Is TCP support for UMTS on Gn and IuPS needed? S2-99D41 suggests that TCP is supported in the user plane for both Gn and IuPS.
- Subclause 15.1.3: Fair charging for UMTS to be determined.

8.4. TS 23.101 v.3.0.1 on General UMTS Architecture, in SP-99539

Stable.

8.5. TS 23.107 v.3.0.0 on QoS Concept and Architecture in SP-99540

Stable.

Work on 23.060 might cause some need for updates

8.6. TS 23.110 v.3.2.0 on Access Stratum (AS): Services and Functions, in SP-99541

Stable.

8.7. TS 23.121 v.3.1.0 on Architectural Requirements for Release 1999, in SP-99542

Stable.

Possible open issue: Currently BSSAP is used for inter-3G_MSC SRNS Relocation. There are proposals to replace this with RANAP. Guidance is being sought from CN as to the issues with this proposal.

8.8. TS 23.127 v.1.1.0 on Virtual Home Environment (VHE)/ Open Service Architecture (OSA) - Stage 2, in SP-99543

The expected completion date is TSG SA#7. Open Issues:

- Registration of Service Capability Server.
- Support for GPRS and SMS online charging.
- Description of 'Load Balancing' service capability features
- Support for USSD/SMS user interaction

8.9. TS 23.171 v.1.1.0 on Location Services (LCS) in UMTS - Stage 2, in SP-99544

The expected completion date is TSG SA#7. Issues for further study or open issues:

- LCS support for packet switched services.
- information transfer between SRNC and target UE and LMU
- Handling of new accuracy classes being defined in SA1
- Support of UTRAN positioning methods in core network ?
- Adapting the final GSM 03.71 LCS stage 2 specification for 23.171 and 25.305 is still to be done.

9. Approval of the following CRs by SA#6:

S2 asks TSG SA#6 to approve the following CRs:

- on 03.02 v.3.1.0, in SP-99545
- on 23.002 v.3.1.0, in SP-99546
- on 03.60 R 97 v.6.5.0 and R98 v.7.2.0 in SP-99547
- on 23.060 v.3.1.0, in SP-99548
- on 23.107 v.3.0.0, in SP-99549
- on 23.110 v.3.2.0, in SP-99550
- on 23.121 v.3.1.0, in SP-99551
- on 23.920 v.3.1.0, in SP-99552

10. Annex A: Inter-Group Co-ordination ad-hoc (IGCs)

By delegation of TSG SA, SA2 is in charge the overall co-ordination of technical work within 3GPP.

For the accomplishment of this task, six IGCs have been created (plus one co-ordination entity), each one with their own ftp site and e-mail reflector:

0 General

Coordinator: Alain Sultan, MCC (alain.sultan@etsi.fr)

Site: ftp://ftp.3gpp.org/TSG_SA/WG2_Arch/IGC

1 Bearer Services and QoS

Chair: Oscar Lopez-Torres, T-Mobil (Oscar.Lopez@t-mobil.de)

Site: ftp://ftp.3gpp.org/TSG_SA/WG2_Arch/IGC/Bearer&QoS

reflector address: 3GPP_TSG_SA_IGC_Bearer&QoS@list.etsi.fr

2 GSM/UMTS Interoperation and Mobility Management

Chair: François Courau, Alcatel (francois.courau@alcatel.fr)

Site: ftp://ftp.3gpp.org/TSG_SA/WG2_Arch/IGC/GUinterop&MM

reflector address: 3GPP_TSG_SA_IGC_GUinterop&MM@list.etsi.fr

3 Location based services

Chair: Jan Käll, Nokia (jan.kall@NOKIA.COM)
 Site: ftp://ftp.3gpp.org/TSG_SA/WG2_Arch/IGC/LCS
 reflector address: 3GPP_TSG_SA_IGC_LCS@list.etsi.fr
 4 Packet Architecture and Circuit Architecture
 Chair: Ulrich Dropmann, Siemens (Ulrich.Dropmann@ICN.SIEMENS.DE)
 Site: ftp://ftp.3gpp.org/TSG_SA/WG2_Arch/IGC/PS&CS
 reflector address: 3GPP_TSG_SA_IGC_PS&CS@list.etsi.fr
 5 Security
 Chair: Chris Pudney, Vodafone (chris.pudney@VF.VODAFONE.CO.UK)
 Site: ftp://ftp.3gpp.org/TSG_SA/WG2_Arch/IGC/Security
 reflector address: 3GPP_TSG_SA_IGC_Security@list.etsi.fr
 6 Services and Service platforms
 Chair: Rob Schmiesel, Ericsson (Rob.Schmiesel@era.ericsson.se)
 Site: ftp://ftp.3gpp.org/TSG_SA/WG2_Arch/IGC/Services
 reflector address: 3GPP_TSG_SA_IGC_Services@list.etsi.fr

11. Annex B: List of incoming/outgoing LSs

11.1. At SA2#9

11.1.1. Incoming LS

Tdoc #	Source	Title
S2-99A46	N2	LS answer to Overall Delay Budget within the Access Stratum Results
S2-99A47	N2	Response to LS on a Common Communication Mechanism to be used by the Cell Broadcast Service
S2-99A48	N2	LS COMMENTS ON TR 23.907 VERSION 1.4.0 - QOS CONCEPT AND ARCHITECTURE
S2-99A49	N2	LS on Support for VHE/OSA Stage 2
S2-99A50	N2	LS on CAMEL Architecture in the GSM 03.02
S2-99A51	N1	LS (Cc S2) on CBS Functionality and Responsibility
S2-99A52	N1	Response (Cc S2) to "LS about Synchronisation"
S2-99A53	N1	Response to the LS on Location Area concept
S2-99A54	N1	LS on "Multiplexing of several NSAPIS onto one LLC SAPI"
S2-99A55	N3	Response to LS on User-to-User Signalling (UUS) Enhancements
S2-99A56	N3	LS on RAB requirements for CS data
S2-99A57	N3	LS on Handover issues for CS Data from 2G to 3G PLMNs
S2-99A58	N1-N3 joint meeting	LS on 3G-H.324M
S2-99A59	N1-N3 joint meeting	LS (Cc S2) on Review of 3GPP TS26.112 "Call Set-up Requirements for Circuit Switched Multimedia Telephony Service", version 1.1.0
S2-99A60	SMG2	LS (Cc S2) concerning the GSM/EDGE RAN
S2-99A61	R2	LS on selected location service methods for Release '99
S2-99A62	R2	LS on PPP Encapsulation
S2-99A63	R2	Response to LS (Cc S2) on "Definitions for usage of Multi-mode/system
S2-99A64	R2	LS to S2 QoS on Issues with the response to LS on MExE support of QoS negotiation and handover notifications.
S2-99A65	R2	Reply LS on registration areas and on hierarchical tracking concept
S2-99A66	N2B	LS on Availability of Addition of APN parameter in Network-requested PDP context activation procedure in R97, 98 and 99
S2-99A67	S4	LS (Cc S2) on Response to N2 LS on Tandem Free and Out of Band Transcoder Control
S2-99A68	S3	LS on Authentication for Mobile IP Operations in UMTS
S2-99A69	S3	LS on Principles for secure GSM-UMTS interoperation

S2-99A70	S3	LS on Support for VHE/OSA Stage 2
S2-99A71	R3	LS on usage of E interface in 2G-3G interworking
S2-99A72	R3	LS on RANAP Data Volume Reporting
S2-99A73	R3	LS on Common Identification for Relocation Co-ordination
S2-99A74	T2	LS on CBS Responsibilities
S2-99A75	T2	LS (reply to S2) on Support for VHE/OSA Stage 2
S2-99A76	T2SWG5	Response to LS of R2 (Cc S2) on “Definitions for usage of Multi-
S2-99A77	R2	LS (Cc S2) on Response to R3 to the LS regarding Relocation and GSM-UMTS handover
S2-99A78	S5	LS on Conformance requirements for volume based charging for IP domain, TDoc S2-99663
S2-99A79	S4	LS on Comments on the revised version of ITU-R TG8/1 Recommendation M.1079
S2-99A80	S4	LS on Tandem Free Operation, Transcoder Free Operation, DTMF Signalling
S2-99A81	TIPIA	LS on Statement of co-operation Between TIPIA and UMTS-ICT Focus Group
S2-99A83	N2	LS on Combined MAP Operations in the Integrated Core Network Architecture
S2-99A84	N2B	LS on Further Maintenance of Architectural Information in UMTS TS 29.002
S2-99A85	N2	LS answer to Overall Delay Budget within the Access Stratum Results

11.1.2. Outgoing LS

TDoc #	Title	Answer to
S2-99B51	Forward of the LS from S3 in A69 to N1 and N2.	Forward A69.
S2-99C04	LS to TSG CN OSA ad-hoc, SPAN 3 & 6 (Cc S1 and EP UMTS) on collaboration on open interfaces	-
S2-99C05	LS to T2 (Cc S1) on ‘Comments on T2-99785’	-
S2-99C09	LS to R3 and S5 on functional distribution for volume-based charging between RNC and SGSN	S2-99A72 and S2-99A78.
S2-99C23	LS to N1 and SMG2 on How to proceed QoS work	-
S2-99C27	LS to SMG2, CN 1, CN 2 and CN3 on UMTS/GPRS QoS parameters.	-
S2-99C31	LS to R3 and N1 (Cc N2) on Inter System Handover for the PS domain	-
S2-99C33	LS to R3 (Cc N2) on usage of E interface in 2G-3G interworking network	S2-99A71
S2-99C34	LS to T1P1.5 and SMG on Location Services Phase 2 Architecture (CR to TS 03.71)	S2-99A82
S2-99C35	LS to SMG, TSG SA, GSM Association and S1 on the requirement for ERAN to support the 3rd Generation evolved Circuit interface for Release 2000	S2-99A60
S2-99C36	LS to N3 (Cc N1) Handover issues for CS Data from 2G to 3G PLMNs	S2-99A57
S2-99C38	LS to R3, N1, N2, T2-SWG3 (Cc RAN, N, R2) on CBC-RNC Protocol Responsibility	S2-99A74
S2-99C39	LS to R3 R2 (Cc RAN) on CBS Documentation	S2-99A74
S2-99C40	LS to S1 concerning message screening	-
S2-99C41	LS to S1 (Cc N1, N2) on Comments on the Multicall stage1 (22.135)	-
S2-99C42	LS to S1 on anonymous access for release 99	-
S2-99C43	LS to R2 and N3 (Cc R3) on answer to the LS on PPP Encapsulation	S2-99A62
S2-99C45	LS to R2, R3, N1 and N2 on usage of NSAPI, RB identity, -	-

RAB Id and TEID	
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11.2. At SA2 #10

Incoming LSs			Outgoing LSs		
LS in #	Source	LS in Title	draft	LS out #	LS out title
S2-99D40	N2	Liaison statement on 3G-H.324M		-	
S2-99D41	N2	Response to the LS on the evolution of GTP for Release'99	S2-99F50 (to be handled by e-mail)		
S2-99D42	N2	LS to S2, T1 on required super charger enhancements		-	
S2-99D43	N2	LS on MAP Security		-	
S2-99D46	SPAN 2	LS on VHE	S2-99E35	S2-99E51	LS to S1 (Cc SPAN2, EP UMTS) on User service requirements for Global Virtual Home Environment (VHE)
S2-99D47	N3	LS to S1 (Cc S2) on 3G Services		-	
S2-99D48	N1	LS on Session Management QoS parameters	-	-	
S2-99E36	SMG2	LS on "Basic principles of QoS interoperation".			
-			-	S2-99F06	proposed LS to N1 and N2 on mapping of QoS parameters between R97/98 and R99.
S2-99D49	N1	Response on LS on Information about current status on UE idle mode operation	S2-99D99	S2-99F41	LS to N1, R2, S1, SMG2A and R2 on Information about current status on UE idle mode operation
S2-99D50	CN OSA ad-hoc	LS on online charging support in VHE/OSA stage2	S2-99E00	S2-99E47	LS to CN OSA ad-hoc on Answer to LS on online charging support in VHE/OSA stage2
S2-99D51	CN OSA ad-hoc	LS on VHE/OSA principles	S2-99E01	S2-99E48	LS to S1, CN OSA ad-hoc on answer to LS on VHE/OSA principles
S2-99D52	CN OSA ad-hoc	LS on mandatory requirement for a capability negotiation mechanism for OSA	S2-99E02	S2-99E49	LS to CN OSA ad-hoc (Cc S1) on mandatory requirement for a capability negotiation mechanism for OSA
S2-99D54	CN OSA ad-hoc	LS on security issues in VHE/OSA	S2-99E03	S2-99F07	LS to S3, CN OSA (Cc N) on security issues in VHE/OSA
S2-99E15	S3	LS on Security issues in VHE/OSA			
S2-99D55	CN OSA ad-hoc	LS on Address Translation in VHE/OSA		-	

S2-99D56	CN OSA ad-hoc	LS on the interaction between MMS, SAT, MExE, non-MExE terminals and Camel/Open Service Architecture	S2-99E04	S2-99E50	LS to S1, N1(Cc CN OSA ad-hoc) on the interaction between MMS, SAT, MExE, non-MExE terminals and Camel/Open Service Architecture
S2-99D57	CN OSA ad-hoc	LS response to 'Collaboration of open interfaces'		-	
S2-99D59	R2	LS on incorporation of broadcast/multicast architecture and an broadcast/multicast related interworking function		-	
S2-99D60	R2	Answer to LS from RAN3 on Radio Access Bearer attributes	S2-99E27, S2-99E77	S2-99F40	LS to R2, R3 (cc N1, N3, S4) on Radio Access Bearer attributes
S2-99E32	R3	LS on Radio Access Bearer attributes			
S2-99D61	R2	LS on Emergency calls using IMEI as UE Identifier	-	S2-99E05	LS redirected to S1 and S3 on Emergency calls using IMEI as UE Identifier
S2-99D62	R2	Response to LS on CBS documentation		-	
S2-99D63	R2	LS to N1 (Cc S2) on UMTS PLMN selection (response to N1-99C78)		-	
S2-99D64	R2	LS on Service requirements of CBS reception when UE is in CONNECTED mode		-	
S2-99D66	R3	LS on RANAP modifications related to handover between UMTS and GPRS and within UMTS via CN		-	
S2-99D67	R3	LS on RAB pre-emption		-	
S2-99D68	R2	Reply to Liaison on "N1 Open Questions on QoS" (Cc S2)		-	
S2-99D85	T1P1.5	Transfer of Location Services to 3GPP	S2-99E38	S2-99E40 pending	proposed LS to T1P1.5 (Cc SMG#30bis) on LCS R99
S2-99E16	N2	LS to S4 (Cc S2) on Out-of-Band Transcoder Control		-	
S2-99E17	N2	LS on the Introduction of Reserved Service Labels in the APN	-	S2-99E84	LS to N2 on answer of the LS on the Introduction of Reserved Service Labels in the APN
S2-99E19	N2	LS on introduction of Follow Me for the transferred Chapter 4 of 29.002		? Open, left to MCC. (check with A84)	
S2-99E20	N2	LS to S2 on establishment of a QoS taskforce	S2-99E86	S2-99F48	LS to N2 on answer on establishment of a QoS taskforce

S2-99E21	N2	LS on Combined Mobility Management		-	
S2-99E23	N2	LS on Naming of CAMEL in R99 and R2000		-	
S2-99E24	N2	LS to OSA ad-hoc (Cc S2) on Response to Liaison "Interaction between MMS, SAT, MExE, non MExE terminals and Camel Open Service Architecture"		-	
S2-99E33	N2	LS to TSG N (Cc S2) on CAMEL Control of VoIP Services FTR		pending (to be handled by e-mail)	
S2-99E34	N2	LS on Dialed Services in CAMEL Phase 3	-	S2-99E87	LS redirected to S5 on Dialed Services in CAMEL Phase 3
S2-99E44	SMG2	LS on UE/MS idle mode operation.		-	
S2-99E45	SMG2A	LS to R2, R3 (Cc S2) regarding Relocation and GSM-UMTS handover		-	
			S2-99F15	S2-99F42	LS to N1, N2, SMG2 (Cc R3) on usage of RANAP over MAP/E at intra UMTS inter MSC handover/relocation
S2-99E18	N2	LS on Open Issues on 3G to 2G Handover (packet Switched domain)			
				S2-99E72	LS to N1 concerning TI value extension
			S2-99F23	S2-99F29	LS to N1 and N2 (Cc R2, R3) on the concern about the definition of the Service Area identity
			S2-99E69	S2-99F27	LS to T3 on the clarification of the information storage in USIM
			S2-99E91, S2-99F36	S2-99F47	LS to N1 and N2 clarifying terms related to the naming of PDP contexts created with the 'PDP Context Activation Procedure' and with the 'Secondary PDP Context Activation Procedure'
			S2-99F26	S2-99F44	LS to CN (Cc S5, N2) on CDR creation for non-charging liable subscriptions
S2-99D88	T1P1.5	LCS Broadcast mechanism		-	
S2-99E43	SMG2	LS on GERAN architecture	S2-99E82	S2-99F16	LS to SMG2 on GERAN (GSM/EDGE RAN) architecture. In response to Tdoc SMG2 1993/99 (E43).

S2-99E46	SMG2	LS on GERAN (GSM/EDGE architecture)			
				S2-99F45	LS to N1, N4 (Cc N3, R2, R3 and SMG2A) on Response LS on Session Management QoS parameters
-				S2-99E83	Cover sheet to the presentation on MIP to S3.
S2-99D58	R3	LS on Common Communication Mechanism to be used by the Cell Broadcast Service	S2-99D83, S2-99E13	S2-99F13	LS to RAN 3on Common Communication Mechanism to be used by the Cell Broadcast Service
			S2-99E75	S2-99F49	LS on Answer to RAN2 LS on Service requirements of CBS reception when UE is in CONNECTED mode (TSGR2#8(99)g81)
			S2-99F24	S2-99F43	LS to T2 on the report on Multimode Terminal
			S2-99F19	S2-99F46	LS to S5 (Cc N2) on CDR creation for non-charging liable subscriptions

12. Annex C: List of CRs for approval

12.1. On 23.002

TDoc #	CR #	spec	Title
S2-99E07	002r1	23.002	Addition of GLR related descriptions

12.2. CRs on 03.60 R97 (v. 6.5.0)

TDoc #	CR #	Title	cat
S2-99B91	A172r1	Removal of BB Protocol	F
S2-99B86	A174	PTM, PDP, and SS cleanup	F
S2-99B93	A176	No (P-)TMSI in Complete messages	F
S2-99D73	A178	GPRS Mobile Stations classes	F
S2-99E52	A180	CS paging response	F

12.3. CRs on 03.60 R98 (v.7.2.0)

TDoc #	CR #	Title	cat
S2-99B92	A173	Removal of BB Protocol	F
S2-99B87	A175	PTM, PDP, and SS cleanup	F
S2-99B94	A177	No (P-)TMSI in Complete messages	F
S2-99D74	A179	GPRS Mobile Stations classes	F
S2-99E53	A181	Cs paging response	F

S2-99E57	A182	Compatible between R97 and 98	F
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12.4. On 23.060 v.3.1.0

TDoc #	CR #	spec	Title	cat
S2-99B75	013r2	23.060	Traffic Flow Templates (TFT) for packet filtering	
S2-99B01	017r1	23.060	Removal of BB Protocol	F
S2-99B72	043r2	23.060	GPRS QoS Parameters	B
S2-99C32	046r3	23.060	Addition of the sections of NSAPI, RB identity, RAB ID for UMTS and of TEID	
S2-99B76	047r1	23.060	MS Initiated TFT modification, addition and deletion	
S2-99B83	048r1	23.060	interaction points for GPRS/CAMEL interwork	
S2-99B90	049r1	23.060	Description of Mobility Agents in Mobile IP	B
S2-99B06	051	23.060	No (P-)TMSI in Complete messages	F
S2-99E73	053r3	23.060	Releases 97, 98 and 99 interactions	B
S2-99B95	055r1	23.060	Clarification of MM procedures in PMM-IDLE for common UMTS/GSM RA	C
S2-99E65	059r1	23.060	UMTS <-> GPRS Intersystem change (handover)	D
S2-99C30	060r2	23.060	UMTS-GPRS Intersystem Handover	
S2-99E78	061r1	23.060	N2 would like to ask S1 and S2 advice on how to handle the UMTS PS domain to GPRS handover from a service aspects point of view, in view of	F
S2-99E09	066r1	23.060	Improving charging efficiency - conditionally agreed	
S2-99F51	067r2	23.060	Subscriber and equipment trace for PS domain	
S2-99E22	068r1	23.060	BSS QoS involvement improvements	F
S2-99D75	069	23.060	GPRS Mobile Stations classes	
S2-99E10	070r1	23.060	Usage of TI in the secondary PDP context activation procedure - CA	F
S2-99D77	071	23.060	Logical Link Management Functions for GPRS	D
S2-99D78	072	23.060	Packet Domain Core Network Nodes	D
S2-99D79	073	23.060	User Plane for UMTS	D
S2-99D89	074	23.060	UTRAN Registration Area Identity and Cell Identity - CHECK	
S2-99F28	075r2	23.060	Unnecessary of cell identity and cell identity age in 3G-SGSN MM context	F
S2-99D91	076	23.060	Deletion of TFT in 3G-SGSN PDP context	F
S2-99D92	077	23.060	The number of RNC RAB contexts in a RNC context	F
S2-99E67	078r1	23.060	The usage of reordering required parameter	B
S2-99E68	079r1	23.060	Information storage in USIM	
S2-99E54	081	23.060	CS paging response	F
S2-99E55	082	23.060	SMS support in 3G-SGSN	B
S2-99F30	083r2	23.060	Usage of secondary PDP context activation procedure	

12.5. On 23.107 v.3.0.0

TDoc #	CR #	spec	Title	cat
S2-99C21	001r1	23.107	GPRS/UMTS QoS Parameter Mapping	
S2-99E25	003r1	23.107	Update of Transfer delay attribute definition	
S2-99D33	004	23.107	Clarification on rate control, asymetry and error ratios attributes	
S2-99E90	005 draft	23.107	Clarification on parameter value ranges	F
S2-99D35	006r1	23.107	Clarification of Maximum bit rate attribute	C
S2-99E28	007r1	23.107	Mapping of QoS profiles between R97/98 and R99	
S2-99D38	008	23.107	Generation of QoS parameters for CS data services for call setup and interworking UMTS-CS	
S2-99F37	010r2	23.107	Rules for the Comparison of QoS Profiles	
S2-99F25	011	23.107	Editorial changes to 23.107	D

12.6. On 23.110

TDoc #	CR #	spec	Title
S2-99881	003	23.110	AS-NAS primitives
S2-99F14	004	23.110	Additions to the access stratum model to support Cell Broadcast.

12.7. On 23.121 v.3.1.0

TDoc #	CR #	spec	Title	cat
S2-99B81	042r1	23.121	Gateway Location Register	C
S2-99B58	043r1	23.121	Clarification of SMS sending in UMTS	F
S2-99B63	044r1	23.121	SRNS Relocation for PS domain for the case of RT	C
S2-99E63	045r1	23.121	Cell Broadcast System Architecture	B
S2-99B61	046r1	23.121	Additional modifications related to UMTS area concept change	C
S2-99C02	047	23.121	Correction of criteria for data volume reporting from RNC to SGSN	F
S2-99D31	051	23.121	Mobile IP	B
S2-99E06	052	23.121	Termination point of the GTP-U tunnel	F

12.8. On 23.920 v.3.1.0

TDoc #	CR #	spec	Title
S2-99D20	010	23.920	Deletion of the Cell Broadcast System Architecture