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TSG SA1 STATUS REPORT

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1 General Overview of Progress

The TSG SA WG1 #11 meeting was held in **Error! Style not defined.** from the **Error! Style not defined.** It was chaired by Mr Alan Cox (Vodafone) and the secretary was Mr Michael Clayton from the MCC. The host was Vodacom.

The work in SA1 has continued smoothly since the last TSG, being concentrated on Rel-4, but with a view to Rel-5. As is expected towards the end of a release, the Rel-4 comprised mainly of corrections and alignments. The work for Rel-5 is progressing well.

2 External Liaisons

SA1 has received a communication from TIPHON regarding a common approach on QoS in IP based networks. As the document sent by TIPHON is also an architectural document on QoS, SA1 has referred the matter to SA2 also.

In a reply to TIPHON, SA1 has expressed a concern about the time needed to achieve convergence. As the deadline for R4 is March 2001 this is considered too short time, SA1 has proposed that work begins in R5 and has targeted the completion in R6.

3 Change Requests for R99 or earlier

3.1 Roaming restrictions for GPRS

Experience from the deployment of GPRS in live networks has indicated that some existing roaming scenarios and configurations does not work. In the case when operator has only roaming agreement for CS services but not for PS service (GPRS) there is no suitable way by which PS attach can be rejected without impact on both the GSM roaming (also for CS services) and the GPRS services in other networks.

In order to solve the problem it is proposed to introduce a new rejection cause value "GPRS services not allowed in this PLMN" (#14) that could be indicated to the MS during GPRS attach, detach and Routing Area Update procedure in a PLMN which does not offer GPRS roaming to that MS. When MS receives this cause code it shall not attempt new GPRS attach before entering a new PLMN on which it hasn't be rejected with the same cause after the last switch on.

In order to memorise the PLMNs on which the MS is already rejected with #14, a new PLMN list is introduced, which should be deleted when the MS is switched off. The list is introduced in order to avoid subsequent registration attempts which could occur if either the MS (in class C mode), or the user(in class A/B mode) triggers a PLMN reselection after reception of #14.

The CR to implement this for Release 97 are provided for approval in document SP-010036 together with shadow CRs for subsequent Releases.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-11	SP-010036	02.11	A012		R97	F	CR to 02.11 on Roaming restrictions for GPRS (Release '97)	6.0.0	6.1.0	S1-010225
SP-11	SP-010036	02.11	A013		R98	A	CR to 02.11 on Roaming restrictions for GPRS (Release '98)	7.0.1	7.1.0	S1-010130
SP-11	SP-010036	22.011	020		R99	A	CR to 22.011 on Roaming restrictions for GPRS (Release '99)	3.3.0	3.4.0	S1-010131
SP-11	SP-010036	22.011	021		Rel-4	A	CR to 02.11 on Roaming restrictions for GPRS (Release4)	4.2.0	4.3.0	S1-010245

3.2 Deletion of reference to GSM 10.71

Due to an external enquiry, it was noticed that GSM 02.71 contains a reference to GSM 10.71. GSM 10.71 is not a published document, and therefore cannot be referenced in an ETSI publication. Hence document SP-010037 contains a CR to remedy the problem. It should be noted, that only the Release 98 specification contains this reference.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-11	SP-010037	02.71	A003		R98	F	Deletion of reference to GSM 10.71	7.2.0	7.3.0	S1-010088

3.3 Clarification on Circuit Switched Bearer Services in UMTS

SA1 has been in communication with CN3 regarding Circuit Switched Bearer Services in UMTS. CN3 proposed to restructure the document and to correct and adapt it to UMTS capabilities to avoid inconsistencies with 27.001, 23.910 and 29.007, which arose in the past.

This was supported in SA1 where four CRs were elaborated. The first is a CR to R99 to provide the clarification, which is presented in document SP-010039 together with a shadow CR to the releases 4 version.

In addition, CRs 22.002-011 and 22.002-012 are provided in SP-010040 to restructure the Rel-4 specification. These documents are provided together since they are interdependent and to ensure that the package is completed as whole in Rel-4.

Meeti ng-1 st -Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Versi on-Curre nt	Versi on-New	Doc-2nd-Level
Email	SP-010039	22.002	009		R99	C	CR to 22.002 clarification on Circuit Switched Bearer Services in UMTS	3.5.0	3.6.0	S1-010252
Email	SP-010039	22.002	010		Rel-4	C	CR to 22.002 clarification on Circuit Switched Bearer Services in UMTS	4.0.0	4.1.0	S1-010253
Email	SP-010040	22.002	011		Rel-4	D	Restructuring of 22.002	4.0.0	4.1.0	S1-010254
Email	SP-010040	22.002	012		Rel-4	D	Restructuring of tables in section 3.1	4.0.0	4.1.0	S1-010266

3.5 Operator Determined Barring – Zonal Barring

SA1 has identified a discrepancy in the way zones can be defined for ODB. This may cause problems with respect to zonal barring. Zones are defined in one of two ways (depending on the document referred to) as follows:

- Countries are grouped into zones based on the first digit of their international dialling code. So for instance, the USA with code +1 is in zone 1; the UK with code +44 is in zone 4 and Australia with code +61 is in zone 6. There is one exception to this in that Europe is considered to be one zone even though the codes for the countries within it span the +3 and +4 ranges.
- The X.121 system is used in which the numbers for countries appear to be based on IMSIs. The zone a country is dependent on the first digit of this 'IMSI' number. So, taking the above examples, the USA with codes 310-316 is in zone 3; the UK with codes 234-237 is in zone 2 and Australia with code 505 is in zone 5.

In communications with GSM A SERG it has been decided that zones should be defined based on the international dialling plan (option 1 above). Therefore, a CR to Release 99 and a shadow CR to release 4 are provided for approval in SP-010042.

Meeti	Doc-1st-	Spec	CR	Rev	Phase	Cat	Subject	Versi	Versi	Doc-2nd-
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ng-1st-Level	Level							on-Current	on-New	Level
SP-11	SP-010042	22.041	007		R99	F	CR on Operator Determined Barring – Zonal Barring to 3GPP TSG SA WG1	3.1.0	3.2.0	S1-010173
SP-11	SP-010042	22.041	008		Rel-4	A	CR on Operator Determined Barring – Zonal Barring to 3GPP TSG SA WG1	4.0.0	4.1.0	S1-010174

3.6 CAMEL

At SA #10, a very complex, and largely editorial CR, was presented to 22.078. It would appear that some of the "editorial" corrections were not correctly implemented. Hence, SA1 is presenting CR 22.078-075r2 to correct the specification.

Also, it was identified that a shadow CR was never produced for Rel-4 and so CR 22.078-079r3 is being presented to update the Rel-4 version, which should be exactly the same as Release 99.

Finally, due to the above CRs, and in light of some alignments that have occurred between the stages 1 and 2, CR 22.078-080r1 is being presented to SA #11.

The CRs are presented in document SP-010045 for approval.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010045	22.078	075	2	R99	F	Remedy for incorrect implementation of CR 22.078-062r5	3.6.0	3.7.0	S1-010104
SP-11	SP-010045	22.078	079	3	Rel-4	F	Alignment with stage 2 & 3, and some editorial corrections	4.1.0	4.2.0	S1-010105
SP-11	SP-010045	22.078	080	1	Rel-5	A	Alignment with stage 2 & 3, and some editorial corrections	5.1.0	5.2.0	S1-010106

At the last meeting of SA1, it was decided that support of CAMEL phase 3 automatically implies support of phases 2 and 1 and a CR was presented to SA #10 to implement this. However, at the ad hoc, there was a request that CAMEL phase 4 need not support the features of CAMEL phase 3, although the functions of CAMEL phase 3 are included in phase 4.

After much debate, SA1 decided that:

“If an IPLMN or VPLMN supports CAMEL Phase 4, it shall also provide the functionality of all previous CAMEL phases. Phase 4 network signalling shall support interworking with CAMEL Phases 3 and 2.”

The CRs to implement this are provided in SP-010046 for approval.

It should be noted that SA1 has informed CN2 of this conclusion.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010046	22.078	076	1	R99	F	Support of previous phases of CAMEL	3.6.0	3.7.0	S1-010107
SP-11	SP-010046	22.078	077	2	Rel-4	A	Support of previous phases of CAMEL	4.1.0	4.2.0	S1-010108
SP-11	SP-010046	22.078	078	3	Rel-5	F	Support of previous phases of CAMEL	5.1.0	5.2.0	S1-010242

In section 18.8 in 3GPP TS 22.078 V3.6.0 the interworking between CAMEL and the supplementary service "Call Barring" (CB) is specified. Section 18.8 has sub sections for the individual Call Barring categories (section 18.8.1 – 18.8.5). For each sub section, the interaction, if any, between CAMEL and the specific Call Barring category needs to be specified for Mobile Originated calls, Mobile Forwarded calls or Mobile Terminated calls, in as far as applicable.

The "Call Barring" supplementary service is also applicable to Mobile Originated Short Message Service (MO SMS). and the network feature "Operator Determined Barring" (ODB) is also applicable to MO SMS. The applicability of CB and ODB to Short Message Service is specified in 3GPP TS 23.040, sections 3.5 and 3.6.

The interaction between CAMEL and CB for MO SMS and the interaction between CAMEL and ODB for MO SMS is currently not reflected in 3GPP TS 22.078.

Hence CR 22.078-092 proposes new subclauses to sections 18.8 to remedy the above described omission. Shadow CRs for Rel-4 and Rel-5 are also presented in document SP-010047.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010047	22.078	092	2	R99	F	Interaction between CAMEL control of MO-SMS and Call Barring & ODB	3.6.0	3.7.0	S1-010116
SP-11	SP-010047	22.078	093	2	Rel-4	A	Interaction between CAMEL control of MO-SMS and Call Barring & ODB	4.1.0	4.2.0	S1-010117
SP-11	SP-010047	22.078	094	1	Rel-5	A	Interaction between CAMEL control of MO-/MT-SMS and Call Barring & ODB	5.1.0	5.2.0	S1-010118

Another interaction not correctly specified is that between CAMEL and BOIC. Section 18.8.2.1 states that there is no interaction between CAMEL and the supplementary service Barring of Outgoing International Calls. This is not true; CAMEL may modify the destination address, so that the call will not be prevented by the bar.

The CRs to implement this change for all releases are presented in SP-010048.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010048	22.078	095		R99	F	Correction of interaction between CAMEL and BOIC	3.6.0	3.7.0	S1-010113
SP-11	SP-010048	22.078	096		Rel-4	A	Correction of interaction between CAMEL and BOIC	4.1.0	4.2.0	S1-010114
SP-11	SP-010048	22.078	097		Rel-5	A	Correction of interaction between CAMEL and BOIC	5.1.0	5.2.0	S1-010115

It was identified that some alignment of the phase 3 congestion control procedure with stage2 was required. Hence, a CR to R99 is provided in SP-010050 together with shadow CRs to Rel-4 and Rel-5.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010050	22.078	085	3	R99	F	Corrections of congestion control procedure	3.6.0	3.7.0	S1-010188
SP-11	SP-010050	22.078	086	3	Rel-4	A	Corrections of congestion control	4.1.0	4.2.0	S1-010189

							procedure			
SP-11	SP-010050	22.078	089	2	Rel-5	B	Corrections of congestion control procedure	5.1.0	5.2.0	S1-010190

4 Work Items with SA1 Lead

4.1 CAMEL

A number of CRs are being presented for Rel-5 (CAMEL phase 4) to clarify some issues.

22.078-081r2

Further clarification of the CPH operations is required:

- It is possible to release one party or all parties at any point in the call (alignment with subclause 8.1.4)
- The reference to IP Multimedia has been removed
- Clarification on creating additional parties in a call
- Discretion is given to the CSE whether to connect a VPLMN/IPLMN-defined notification when a call party is placed on hold or connected to the group.

22.078-082

For Circuit Switched affairs several Mobility Management Events are defined. Attach, Detach, Location Update are some of them. In case services are independent from the access type, i.e. CS or PS, similar triggers indicating similar situations are required in respect to GPRS.

Most of these events are specified in the relevant GPRS chapters. Unfortunately these events will apply after an initial trigger only. If an application is kept on Location Update or MS detach (in the CS area) only it can use the Mobility Management Event. Assuming the same application wants to offer the same service to a GPRS mobile, it is not defined what should happen. For GPRS it has to trigger on attach or context establishment first to arm subsequent event. This seems to be a disadvantage. The situation is even worse when the “always on” (switching on and stay online unlimited) is applied; an application offering service in case of “change of position” have to (mis)use CSE resources from the beginning of attach/context establishment to get informed on their real interest, e.g. when the subscriber moves.

22.078-083r2

CR to 22. 078-083r2 contains corrections of Call Barring interaction for CSE created call/new party. The description of interworking of CSE created new party with Call Barring supplementary service and ODB is misleading and not in line with chapter 18.8.

22.078-084r1

CR to 22.078-084r1 contains a change on changing of naming for SMS-CSI. The Stage 2 documents (23.008 and 23.078) are naming the CAMEL marks for SMS MO-SMS-CSI and MT-SMS-CSI. This CR is proposing to align with stage2.

22.078-087r2

CR to 22.078-087r2 contains a change on transport of Charging Information from serving PLMN to the CSE. This document proposes to enable the CSE to request charging

notifications from the serving MSC in case of Mobile Terminated calls. The phrase 'request charging notifications' has been changed to 'send charging notifications' for Mobile Originated and Mobile Forwarded calls.

22.078-088r1

CR to 22.078-088r1 contains a change on enhanced CSE capability for Subscribed Dialed Services. There are IN services like Freephone, Premium Rate, Universal Access Number, that a mobile user would like to access from his home PLMN and also when he is roaming. These are the services that are already popular in his PSTN. The requirement is that a mobile user should be able to invoke the same set of IN services, preferably using the same dialling pattern as already prevalent in his PSTN.

22.078-090r2

CR to 22.078-090r2 contains a change to provide Location Information in case a terminating call is alerted. When a terminating call is subject to CAMEL based services, the location of the called subscriber is given at the initial contact from the network to the CSE. For some service this location information might be not sufficient and precise enough. It is proposed to add the location information to the procedure where the called subscriber is alerted. At this time the subscriber is paged and the location information is very accurate.

The above CRs are presented in document SP-010051 for approval.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010051	22.078	081	2	Rel-5	C	Clarification on Call Party Handling requirements	5.1.0	5.2.0	S1-010123
SP-11	SP-010051	22.078	082		Rel-5	B	Enhancements to mobility management reporting	5.1.0	5.2.0	S1-010119
SP-11	SP-010051	22.078	083	2	Rel-5	F	Corrections of Call Barring interaction for CSE created call / new party	5.1.0	5.2.0	S1-010121
SP-11	SP-010051	22.078	084	1	Rel-5	D	Changing of naming for SMS-CSI	5.1.0	5.2.0	S1-010120
SP-11	SP-010051	22.078	087	2	Rel-5	B	Transport of Charging Information from serving PLMN to the CSE	5.1.0	5.2.0	S1-010125
SP-11	SP-010051	22.078	088	1	Rel-5	C	Enhanced CSE capability for Subscribed Dialed Services	5.1.0	5.2.0	S1-010122
SP-11	SP-010051	22.078	090	2	Rel-5	B	Provide Location Information in case a terminating call is alerted	5.1.0	5.2.0	S1-010124

4.2 Provisioning of IP-based multimedia services

At the last meeting, SA1 received a liaison statement from SA2 on on IM Emergency Call without USIM. Essentially, SA2 proposed that all emergency calls with or without a USIM from IM subscribers are made on the CS network to make the implementation easier. This prompted a long debate in SA1 with a number of questions.

- Is it required that an IM UE without a USIM be able to make an emergency call via the PS domain and the IM subsystem in Rel 5?
- Is it required that an IM UE with a USIM but which is not attached to the SGSN be able to make an emergency call via the PS domain and the IM subsystem in Rel 5?
- Is it acceptable for R5 for all emergency calls from IM capable UEs to be delivered over the CS domain?

It was noted that some regulatory regimes do have some requirements for emergency calls without a USIM and this text is not consistent with this. Moreover, it was agreed to collect comments from SDOs.

Subsequent to the SA1 meeting there has substantial discussion on this subject. A liaison statement to clarify the issue has been provided in document SP-010035.

SA1 could attempt to resolve this issue at its forthcoming meeting in May, however we believe that it is necessary to take information from SA2 into account when deciding how to go forwards and also for the sake of expediency we are respectfully requesting SA#11 to review the overall picture and give guidance on how to proceed with Emergency Calls in Release 5.

In the meantime, a CR to implement the understanding as per the last meeting, even with the implied support is being provided in document SP-010057 for approval.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010057	22.101	070		Rel-5	C	CR to 22.101 on Clarifications on IMS emergency call support	5.1.0	5.2.0	S1-010250

SA1 has also discussed charging for IMS services and has elaborated a CR to 22.115 to add features for alignment with new functionality defined in TS 22.228 and to provide event based charging. New information is provided by the serving network and by the user to apply IP Multimedia Charging and Event Based Charging and new special cases are described to apply IP Multimedia and Event Based Charging.

It is being provided in document SP-010058 for approval.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010058	22.115	005		Rel-5	B	Introduction of charging for IPMultimedia and Event Based Charging	3.3.0	5.0.0	S1-010192

At the last meeting of SA (#10) there was a debate regarding the interworking between IM domains and CS networks. In SA TSG-SA#10 it was concluded that the interworking between IMS and CS external networks is needed for voice calls. TSG-SA expressed in its report of meeting #10 and in a liaison statement to SA1 and SA2 (cc to CN1, CN3 and CN4) a requirement to support voice calls between IMS and CS domain users.

Since then, SA1, CN1 and CN3 have been in communication to identify how this view should be implemented. It was not clear to CN1 and CN3 whether the IMS and CS domain interworking is meant to be limited only to voice calls or if the interworking should cover also multimedia calls.

The interpretation of SA1 is that the interworking between IMS and CS domain is applicable to basic voice only and it was decided to look at what the definition of basic voice call is.

A proposal was:

"A Basic Voice Call is used for calls between the IMS and CS/PSTN and can convey only a speech component. The definition of the BVC pertains only to the boundary between the IMS and the

CS/PSTN. If more than one IMS party is involved in an communication with a PSTN party/parties, the communication between the IMS parties shall not be adversely impacted by the presence of a PSTN party. Supplementary service elements identified for support on the boundary interface are CLIR and Call Forwarding."

The result was a CR to 22.228 to add the definition and to implement the appropriate changes. This is provided in document SP-010063 for approval.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010063	22.228	001		Rel-5	C	IMS to PSTN/ISDN interworking for basic voice calls only	5.0.0	5.1.0	S1-010246

4.3 VHE

At the last meeting of SA1 in Orlando it was decided that the Rel-4 version of 22.121 needed clean up, and that it should be made clearer which part was descriptive text and which were the requirements. It was decided that no new requirements would be put into Rel-4 spec but only the removal of OSA part and the clean up.

Most of the modifications done to the TS are editorial changes and in some cases changes are made to the text for clarification purposes.

Another CR, also provided in document SP-010059, contains changes to add a User profile requirement and to make further changes for clarification.

The CRs to do this are being presented in document SP-010059 for approval.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010059	22.121	018		Rel-4	F	Changes to TS 22.121 Release 4 - Update of 097 submitted to S1 Plenary	4.0.0	4.1.0	S1-010085
SP-11	SP-010059	22.121	019		Rel-5	B	The Virtual Home Environment (Release 5) Addition of User profile requirement and changes for clarification	4.0.0	5.0.0	S1-010169

It should be noted that the functionality of VHE R99 and VHE Rel-4 are the same.

4.4 OSA

In the current OSA stage 1 (22.127 Version 4.0.0) there exists a requirement for the OSA interface to be able to create CS or PS calls. For release 4 there exists no mechanism to accomplish this and so CR 22.127-001 is being presented.

Also in the current OSA stage 1 (22.127 Version 4.0.0) it is unclear what kind of user interaction for CS CC needs to be considered. Sending information to the user or collecting information from the user needs to be supported when the user is engaged in a call (e.g. USSD, DTMF) or call-unrelated (e.g. USSD, SMS)

The CRs to implement these changes are provided for approval in document SP-010060.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
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SP-11	SP-010060	22.127	001		Rel-4	F	CR to 22.127 V 4.0.0 on CS Call Control (Release 4)	4.0.0	4.1.0	S1-010140
SP-11	SP-010060	22.127	002		Rel-4	F	CR to 22.127 V 4.0.0 on User interaction(Release 4)	4.0.0	4.1.0	S1-010141

5 Work Items with other Lead

5.1 ODB for Packet Oriented Services

SA1 is given to understand that a work item has been presented to, and approved by, SA2 for ODB (Operator Determined Barring) for Packet Oriented Services. This was discussed by SA1 which agreed that it is a useful feature.

Hence, SA1 has elaborated a CR to 22.041 in order to implement the changes since the current ODB barring categories for Packet Oriented Services has conflict with the description in GPRS stage 2. This is provided in document SP-010041.

SA1 is also given to understand that ODB for Packet Oriented Services is not a part of Release 99. Therefore CR 22.041 is provided in document SP-01041 to remove the requirement. The two CRs are not interdependent and do not need to be approved as a package; they are presented together for simplicity as related subjects.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010041	22.041	005		R99	F	Remove ODB for Packet Oriented Services from Release 99	3.2.0	3.3.0	S1-010036
SP-11	SP-010041	22.041	006		Rel-4	F	Corrections of the ODB categories for Packet Oriented Services	4.0.0	4.1.0	S1-010019

In light of the request for ODB categories for Packet Oriented Services, it was identified that interaction between ODB and CAMEL for PS services needed to be elaborated. However, it was the intention for R99 and Rel-4 versions of CAMEL to be the same.

Rather than cause the two releases to be different, it was decided to make the changes to R99 and Rel-4, with a shadow CR for Rel-5. Since the CR clarifies that no interactions exist between CAMEL and the ODB for the Packet Oriented Services it was considered that the change to R99 is not incompatible.

The CRs to implement this are provided in SP-010049.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010049	22.078	098		R99	F	New subclause is added regarding to the CAMEL interactions with ODB for the Packet Oriented Services	3.6.0	3.7.0	S1-010203
SP-11	SP-010049	22.078	099		Rel-4	A	New subclause is added regarding to the CAMEL interactions with ODB for the Packet Oriented Services	4.1.0	4.2.0	S1-010204
SP-11	SP-010049	22.078	100		Rel-5	A	New subclause is added regarding to the CAMEL interactions with ODB for the Packet Oriented Services	5.1.0	5.2.0	S1-010205

5.2 CRs to 22.071 on LCS

Document SP-010044 contains a number of CRs to 22.071 on location services.

22.071-024

The current LCS specifications allow the LCS Client to indicate the wanted level of quality of service for the location information. This chapter 9.2.3 adds the functionality that the LCS client should be able to "negotiate", i.e. issue a new location request with other quality requirements. But the LCS client can anyhow always issue new location requests whenever needed. SA1 concluded that there are no additional LCS QoS requirements at this time.

22.071-025

Chapter 9.2.2 actually describes a new events triggering location service request when a call is established or closed and the similar functionality for the GPRS sessions. This is however not very clearly described in current text and thus a clarification is proposed. This is a potential future feature for LCS.

22.071--026

The OSA support for LCS is already covered in this specification, thus the second sentence has been deleted.

22.071-027

This CR provides an editorial CR to clean up 22.071 prior to the close of Rel-4.

22.071-028

SA1 has received a liaison statement from CN4 on the maximum size of LCS clients. CN4 has discussed the matter of maximum numbers of LCS clients and indicates that there are protocol limitations (mainly segmentation of the messages) that have to be considered when the maximum number of LCS clients is defined. The TS 29.002 mandates the use of White Book SCCP from 1st of July 2002 and 40 clients can be transferred with MAP protocol only if the White Book SCCP is used. If the Blue Book SCCP is used, only 5 clients can be transferred without specifying protocol level segmentation, which is not recommended by CN4. Hence, the recommendation of CN4 is that the maximum number of LCS clients is 40 and the segmentation problems are solved by using White Book SCCP.

Whilst SA1 would not like to translate a technology limitation into a service requirement SA1 accepts that it is useful to specify a **minimum** value to the number of LCS clients and have specified a minimum of 20.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010044	22.071	024		Rel-4	C	Quality level negation	4.2.0	4.3.0	S1-010235
SP-11	SP-010044	22.071	025		Rel-4	C	Location determination in call or PDP context activation and release	4.2.0	4.3.0	S1-010239
SP-11	SP-010044	22.071	026		Rel-4	C	OSA support for LCS	4.2.0	4.3.0	S1-010237
SP-11	SP-010044	22.071	027		Rel-4	D	Editorial Cleanup	4.2.0	4.3.0	S1-010218
Email	SP-010044	22.071	028		Rel-4	C	Number of LCS Clients	4.2.0	4.3.0	S1-010269

5.3 Common PCN Handset Specification (CPHS)

In light of the WI Common PCN Handset Specification (CPHS) SA1 is proposing CR to 22.082 to add a feature for alignment with new functionality defined in T3. When the UE is in idle mode, an indication on the status of CFU is provided to the user. The feature is already implemented in Rel-4 in the context of the CPHS work item and this CR introduces the corresponding service requirement. This change allows for the status of Call Forwarding to be stored in the USIM. It does not involve the network.

The CR is presented in SP-010052 for approval.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010052	22.082	002		Rel-4	B	Notification of active CFU	3.0.1	4.0.0	S1-010073

SA1 is presenting a CR to 22.101 Rel-4 to specify the alternative sources for the PLMN name resulting. The Public Land Mobile Network name is currently derived either by the UE list or, if the terminal and the network implement the feature, using the broadcast channel according to 22.042. In this CR it is proposed to allow the PLMN name to be read from the USIM.

An equivalent CR is provided for Rel-5 and both are presented for approval in document SP-010054.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010054	22.101	064		Rel-4	B	PLMN name indication	4.2.0	4.3.0	S1-010207
SP-11	SP-010054	22.101	065		Rel-5	A	PLMN name indication	5.1.0	5.2.0	S1-010208

Also in line with the work of T3 on CPHS, SA1 is presenting a CR to Rel-4 to introduce the new features. These are Storage of mailbox number and Message waiting indicator.

The CR to Rel-4 and consequential changes to Rel-5 are provided in document SP-010055 for approval.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010055	22.101	066		Rel-4	B	CR to 22.101 on Introduction of CPHS features	4.2.0	4.3.0	S1-010178
SP-11	SP-010055	22.101	067		Rel-5	A	CR to 22.101 on Introduction of CPHS features	5.1.0	5.2.0	S1-010179

5.4 Multimedia Messaging

Document SP-010062 contains a number of changes to 22.140 on Multimedia Messaging.

22.140-004

During the ongoing work of TSG T2 on 23.140 (Stage 2 MMS) it has been found that

some sections in 22.140 require further clarification. Additionally, the need for a few minor editorial corrections has been identified and it has also been identified that there is a need to align stage 1 with the functionality of stage 2 for release 4. A CR to implement these changes is provided in document SP-010062 in CR 22.140-004.

22.140-005

In addition, it was noted that the present SA4 work on streaming for R'4 is limited to downlink streaming (with a terminal as a streaming client). Uplink streaming (terminal originating the stream) has not been considered so far. Therefore, CR 22.140-005 reflects the restriction to downlink streaming only in the requirements for MMS which aligns MMS stage 1 with SA4's current working assumption.

22.140-006

A clear need was identified by T2 for that MMS shall be able to support a request to forward multimedia messages or multimedia message elements without having to first download the MM to the terminal and that this feature needs standardisation. The change in 22.140-006 allows the feature to be standardised.

22.140-007

The recent working assumption in T2 for MMS stage 2, 23.140 and in the WAP Forum (which defines an implementation/stage 3 of MMS) supports features of MMS that are not yet covered in the MMS stage 1, 22.140. The CR in 22.120-007 identifies these features and proposes to align MMS stage 1.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
Email	SP-010062	22.140	004		Rel-4	C	Alignment of Stage 1 MMS to Stage 2 MMS	4.0.1	4.1.0	S1-010265
SP-11	SP-010062	22.140	005		Rel-4	C	Support for Streaming in MMS	4.0.1	4.1.0	S1-010016
SP-11	SP-010062	22.140	006		Rel-4	F	MM Forwarding	4.0.1	4.1.0	S1-010014
SP-11	SP-010062	22.140	007		Rel-4	B	New features in MMS R'4	4.0.1	4.1.0	S1-010015

6 Other Items

3.1 Vocabulary

In response to the announcement at SA #10, SA1 was pleased to receive input regarding specification 21.905 on Vocabulary. The CRs to implement the changes are provided in document SP-010038.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010038	21.905	006		Rel-4	D	Editorial changes and new definitions	4.1.0	4.2.0	S1-010233
SP-11	SP-010038	21.905	007		Rel-4	B	Inclusion of commonly used definition contained in 23.122	4.1.0	4.2.0	S1-010234

6.2 MeXE service discovery

At the last SA1, a proposed CR to 22.057 on service discovery for MeXE was provided.

Although MExE generically supports service discovery by "surfing" to websites and downloading applications from operators' and other parties servers, it is helpful to explicitly clarify this as a requirement.

Hence CR 22.057-006 is being presented for approval for release 5 in document SP-010043.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010043	22.057	006		Rel-5	B	MeXE service discovery	5.0.0	5.1.0	S1-010202

6.3 Interactions between applications requiring the access to UE resources

Currently WAP sessions and SIM toolkit services are not programmed to run simultaneously in a UE. In other words, no rules have been defined to resolve contentions for the access to the handset resources such as display and keypad. The objective of this proposal is to define a user controlled mechanism to grant access to the UE resources to the applications running simultaneously.

These CRs relate to a release 99 CR that was approved at SA #10.

For Rel-5, further work is expected to enrich the proposed procedure. This will be done in accordance with T2 work on Terminal Local Model, but for the purposes of consistency, it was decided to approve CRs to both Rel-4 and Rel-5.

The consequential changes are provided in document SP-010053.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010053	22.101	062		Rel-4	A	Handling of interactions between applications requiring the access to UE resources	4.2.0	4.3.0	S1-010071
SP-11	SP-010053	22.101	063		Rel-5	A	Handling of interactions between applications requiring the access to UE resources	5.1.0	5.2.0	S1-010072

6.4 Display of service provider name in the UE

SA1 has discussed the issue of the display of service provider name in the UE and has decided that the service requirement requires some clarification. Therefore, a new procedure is described in order to display the desired information on the terminal about the provider of the communication service. When in the home network the name of the service provider is shown on the terminal, when roaming, the name of the visited network is shown.

The CR to Rel-4 to implement this, and the corresponding CR to Rel-5 are provided in document SP-010056.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010056	22.101	068		Rel-4	B	Display of service provider name in the UE	4.2.0	4.3.0	S1-010209

SP-11	SP-010056	22.101	069		Rel-5	A	Display of service provider name in the UE	5.1.0	5.2.0	S1-010210
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6.5 Editorial CR to correct references to releases in 22.129

As part of a review prior to the completion of Rel-4, it was noticed that the references in 22.129 are not correct. As a consequence, CR 22.129-003 is being proposed in document SP-010061 for approval.

Meeting-1st-Level	Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Doc-2nd-Level
SP-11	SP-010061	22.129	003		Rel-4	D	Editorial CR to correct references to releases	4.1.0	4.2.0	S1-010251

7 Work Item Descriptions

7.1 UMTS/GSM ANSI-41 inter-standard roaming

In the summer of 1999 in response to an OHG requirement for inter-standard roaming, workshops were held by 3GPP and 3GPP2 [3], [4] to identify hooks and extensions in the radio access network signalling protocols.

3GPP TSG-T WG3 and ETSI SCP have done work to support multi-mode SIM cards for operation in GSM, TDMA, and CDMA networks.

3GPP TSG-SA WG3 and TSG-CN have been working on positive authentication reporting for subscribers who roam from 3GPP2 networks to 3GPP networks. At the TSG-SA plenary in Bangkok, a liaison statement from TSG-CN requesting broader work item for the feature "Inter-system roaming between 3GPP and 3GPP2" was presented.

SA1 has subsequently received a proposed WID, which has support be a number of companies. Hence, SA1 is presenting the WI description in document SP-010064 for approval.

SA Meet	SA Doc.	Spec	Phase	WID Title/Subject	SA1 Doc
SP-11	SP-01064			UMTS/GSM ANSI-41 inter-standard roaming	S1-010222

7.2 Support of the Presence Capability

SA1 also received a proposal for a work item related to the concept of presence, whereby users make themselves "visible" or not "visible" to other parties of their choice, allowing services such as group and private "chats" to take place. Presence is an attribute related to mobility information, and provides a different capability to be exploited by other services. The concept of presence, once supported, will enable other multimedia services to exploit this key enabler to support other advanced multimedia services and communications.

Examples of multimedia services that could potentially exploit the presence capability include "chat", e-mail, multimedia messaging, instant messaging etc..

It was endorsed by SA1 and is presented to SA #11 in document SP-010064 for approval.

SA Meet	SA Doc.	Spec	Phase	WID Title/Subject	SA1 Doc
SP-11	SP-01064			Support of the Presence Capability	S1-010228

7.3 Transfer of specs from R99 to Rel-4

As part of the closure of release 4, a decision needs to be made regarding which R99 specifications should be upgraded to be contained in Rel-4. A proposal for this has been agreed upon by SA1 and SA is asked to endorse the proposal from SA1 in document SP-01065.

8 Election of Chairman/Vice Chairman

During the last meeting of SA1, an election was held for the position of chairman. SA1 was fortunate to have two very good nominees, Mr Randolph Wohler and Mr Kevin Holley.

The result was that Mr Kevin Holley was elected as chairman.

The term of the other vice chair Tommi Kokkola expires in March of this year. Therefore, SA1 would like to announce a call for nominees for the second position of vice chairman. It is understood that the incumbent is willing to stand for second term.

Finally, SA1 would subsequently like to thank Mr Alan Cox, the outgoing chairman, for all the work he has done for both GSM and 3GPP.

9 Planned meetings of SA1

SA1#12	7-11 May 2001	Helsinki, Finland, hosted by Sonera
SA1#13	9-13 July 2001	Lake Tahoe, North America, hosted by
SA1#14	5-9 November 2001	Japan, hosted by NTT DoCoMo

Annex 1: Documents provided to this Plenary

Tdoc	Title	Agenda
SP-010033	Presentation of Status report from SA WG1 to SA#11	7.1.1
SP-010034	Status report from SA WG1 to SA#11	7.1.1
SP-010035	LS to SA on IM Emergency Call without USIM	7.1.2
SP-010036	CRs to 02.11 and 22.011 on Roaming restrictions for GPRS (Release '97)	7.1.3
SP-010037	CR to 02.71 on Deletion of reference to GSM 10.71	7.1.3
SP-010038	CR to 21.905 for Inclusion of commonly used definitions	7.1.3
SP-010039	CRs to 22.002 clarification on Circuit Switched Bearer Services in UMTS	7.1.3
SP-010040	CRs to 22.002 on Restructuring of 22.002	7.1.3
SP-010041	CRs to 22.041 to remove ODB for Packet Oriented Services from Release 99	7.1.3
SP-010042	CRs to 22.041 on Operator Determined Barring – Zonal Barring	7.1.3
SP-010043	CR to 22.057 on MeXE service discovery	7.1.3
SP-010044	CRs to 22.071 on various subjects	7.1.3
SP-010045	Editorial and alignment CRs to 22.078	7.1.3
SP-010046	CRs to 22.078 on Support of previous phases of CAMEL	7.1.3
SP-010047	CRs to 22.078 on Interaction between CAMEL control of MO-SMS and Call Barring & ODB	7.1.3
SP-010048	CRs to 22.078 on Correction of interaction between CAMEL and BOIC	7.1.3
SP-010049	CRs to 22.078 to add new subclause regarding to the CAMEL interactions with ODB for the Packet Oriented Services	7.1.3
SP-010050	CRs to 22.078 on Corrections of congestion control procedure	7.1.3
SP-010051	Various CRs to 22.078	7.1.3
SP-010052	CR to 22.082 on Notification of active CFU	7.1.3
SP-010053	CRs to 22.101 on handling of interactions between applications requiring the access to UE resources	7.1.3
SP-010054	CRs to 22.101 on PLMN name indication	7.1.3
SP-010055	CRs to 22.101 on CR to 22.101 on Introduction of CPHS features	7.1.3
SP-010056	CRs to 22.101 on Display of service provider name in the UE	7.1.3
SP-010057	CR to 22.101 on Clarifications on IMS emergency call support	7.1.3
SP-010058	CR to 22.115 on Introduction of charging for IPMultimedia and Event Based Charging	7.1.3

	Charging	
SP-010059	Various CRs to 22.121	7.1.3
SP-010060	CRs to 22.127 V 4.0.0 on User interaction(Release 4)	7.1.3
SP-010061	CR to 22.129 to correct references to releases	7.1.3
SP-010062	Various CRs to 22.140	7.1.3
SP-010063	CR to 22.228 on IMS to PSTN/ISDN interworking for basic voice calls only	7.1.3
SP-010064	Work Items for approval from SA1	7.1.3
SP-010065	SA1's requirement for transfer of specs from R99 to Rel-4	7.1.2

Annex 2: CRs provided to this Plenary

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-11	SP-010036	02.11	A012		R97	F	CR to 02.11 on Roaming restrictions for GPRS (Release '97)	6.0.0	6.1.0	S1-010225
SP-11	SP-010036	02.11	A013		R98	A	CR to 02.11 on Roaming restrictions for GPRS (Release '98)	7.0.1	7.1.0	S1-010130
SP-11	SP-010037	02.71	A003		R98	F	Deletion of reference to GSM 10.71	7.2.0	7.3.0	S1-010088
SP-11	SP-010038	21.905	006		Rel-4	D	Editorial changes and new definitions	4.1.0	4.2.0	S1-010233
SP-11	SP-010038	21.905	007		Rel-4	B	Inclusion of commonly used definition contained in 23.122	4.1.0	4.2.0	S1-010234
SP-11	SP-010039	22.002	009		R99	C	CR to 22.002 clarification on Circuit Switched Bearer Services in UMTS	3.5.0	3.6.0	S1-010252
SP-11	SP-010039	22.002	010		Rel-4	C	CR to 22.002 clarification on Circuit Switched Bearer Services in UMTS	4.0.0	4.1.0	S1-010253
SP-11	SP-010040	22.002	011		Rel-4	D	Restructuring of 22.002	4.0.0	4.1.0	S1-010254
SP-11	SP-010040	22.002	012		Rel-4	D	Restructuring of tables in section 3.1	4.0.0	4.1.0	S1-010266
SP-11	SP-010036	22.011	020		R99	A	CR to 22.011 on Roaming restrictions for GPRS (Release '99)	3.3.0	3.4.0	S1-010131
SP-11	SP-010036	22.011	021		Rel-4	A	CR to 02.11 on Roaming restrictions for GPRS (Release4)	4.2.0	4.3.0	S1-010245
SP-11	SP-010041	22.041	005		R99	F	Remove ODB for Packet Oriented Services from Release 99	3.2.0	3.3.0	S1-010036
SP-11	SP-010041	22.041	006		Rel-4	F	Corrections of the ODB categories for Packet Oriented Services	4.0.0	4.1.0	S1-010019
SP-11	SP-010042	22.041	007		R99	F	CR on Operator Determined Barring – Zonal Barring to 3GPP TSG SA WG1	3.1.0	3.2.0	S1-010173
SP-11	SP-010042	22.041	008		Rel-4	A	CR on Operator Determined Barring – Zonal Barring to 3GPP TSG SA WG1	4.0.0	4.1.0	S1-010174
SP-11	SP-010043	22.057	006		Rel-5	B	MeXE service discovery	5.0.0	5.1.0	S1-010202
SP-11	SP-010044	22.071	024		Rel-4	C	Quality level negotiation	4.2.0	4.3.0	S1-010235
SP-11	SP-010044	22.071	025		Rel-4	C	Location determination in call or PDP context activation and release	4.2.0	4.3.0	S1-010239
SP-11	SP-010044	22.071	026		Rel-4	C	OSA support for LCS	4.2.0	4.3.0	S1-010237
SP-11	SP-010044	22.071	027		Rel-4	D	Editorial Cleanup	4.2.0	4.3.0	S1-010218
SP-11	SP-010044	22.071	028		Rel-4	C	Number of LCS Clients	4.2.0	4.3.0	S1-010269
SP-11	SP-010045	22.078	075	2	R99	F	Remedy for incorrect implementation of CR 22.078-062r5	3.6.0	3.7.0	S1-010104
SP-11	SP-010046	22.078	076	1	R99	F	Support of previous phases of CAMEL	3.6.0	3.7.0	S1-010107
SP-11	SP-010046	22.078	077	2	Rel-4	A	Support of previous phases of CAMEL	4.1.0	4.2.0	S1-010108

SP-11	SP-010046	22.078	078	3	Rel-5	F	Support of previous phases of CAMEL	5.1.0	5.2.0	S1-010242
SP-11	SP-010045	22.078	079	3	Rel-4	F	Alignment with stage 2 & 3, and some editorial corrections	4.1.0	4.2.0	S1-010105
SP-11	SP-010045	22.078	080	1	Rel-5	A	Alignment with stage 2 & 3, and some editorial corrections	5.1.0	5.2.0	S1-010106
SP-11	SP-010051	22.078	081	2	Rel-5	C	Clarification on Call Party Handling requirements	5.1.0	5.2.0	S1-010123
SP-11	SP-010051	22.078	082		Rel-5	B	Enhancements to mobility management reporting	5.1.0	5.2.0	S1-010119
SP-11	SP-010051	22.078	083	2	Rel-5	F	Corrections of Call Barring interaction for CSE created call / new party	5.1.0	5.2.0	S1-010121
SP-11	SP-010051	22.078	084	1	Rel-5	D	Changing of naming for SMS-CSI	5.1.0	5.2.0	S1-010120
SP-11	SP-010050	22.078	085	3	R99	F	Corrections of congestion control procedure	3.6.0	3.7.0	S1-010188
SP-11	SP-010050	22.078	086	3	Rel-4	A	Corrections of congestion control procedure	4.1.0	4.2.0	S1-010189
SP-11	SP-010051	22.078	087	2	Rel-5	B	Transport of Charging Information from serving PLMN to the CSE	5.1.0	5.2.0	S1-010125
SP-11	SP-010051	22.078	088	1	Rel-5	C	Enhanced CSE capability for Subscribed Dialed Services	5.1.0	5.2.0	S1-010122
SP-11	SP-010050	22.078	089	2	Rel-5	B	Corrections of congestion control procedure	5.1.0	5.2.0	S1-010190
SP-11	SP-010051	22.078	090	2	Rel-5	B	Provide Location Information in case a terminating call is alerted	5.1.0	5.2.0	S1-010124
SP-11	SP-010047	22.078	092	2	R99	F	Interaction between CAMEL control of MO-SMS and Call Barring & ODB	3.6.0	3.7.0	S1-010116
SP-11	SP-010047	22.078	093	2	Rel-4	A	Interaction between CAMEL control of MO-SMS and Call Barring & ODB	4.1.0	4.2.0	S1-010117
SP-11	SP-010047	22.078	094	1	Rel-5	A	Interaction between CAMEL control of MO-/MT-SMS and Call Barring & ODB	5.1.0	5.2.0	S1-010118
SP-11	SP-010048	22.078	095		R99	F	Correction of interaction between CAMEL and BOIC	3.6.0	3.7.0	S1-010113
SP-11	SP-010048	22.078	096		Rel-4	A	Correction of interaction between CAMEL and BOIC	4.1.0	4.2.0	S1-010114
SP-11	SP-010048	22.078	097		Rel-5	A	Correction of interaction between CAMEL and BOIC	5.1.0	5.2.0	S1-010115
SP-11	SP-010049	22.078	098		R99	F	New subclause is added regarding to the CAMEL interactions with ODB for the Packet Oriented Services	3.6.0	3.7.0	S1-010203
SP-11	SP-010049	22.078	099		Rel-4	A	New subclause is added regarding to the CAMEL interactions with ODB for the Packet Oriented Services	4.1.0	4.2.0	S1-010204
SP-11	SP-010049	22.078	100		Rel-5	A	New subclause is added regarding to the CAMEL interactions with ODB for the Packet Oriented Services	5.1.0	5.2.0	S1-010205
SP-11	SP-010052	22.082	002		Rel-4	B	Notification of active CFU	3.0.1	4.0.0	S1-010073
SP-11	SP-010053	22.101	062		Rel-4	A	Handling of interactions between applications requiring the access to	4.2.0	4.3.0	S1-010071

							UE resources			
SP-11	SP-010053	22.101	063		Rel-5	A	Handling of interactions between applications requiring the access to UE resources	5.1.0	5.2.0	S1-010072
SP-11	SP-010054	22.101	064		Rel-4	B	PLMN name indication	4.2.0	4.3.0	S1-010207
SP-11	SP-010054	22.101	065		Rel-5	A	PLMN name indication	5.1.0	5.2.0	S1-010208
SP-11	SP-010055	22.101	066		Rel-4	B	CR to 22.101 on Introduction of CPHS features	4.2.0	4.3.0	S1-010178
SP-11	SP-010055	22.101	067		Rel-5	A	CR to 22.101 on Introduction of CPHS features	5.1.0	5.2.0	S1-010179
SP-11	SP-010056	22.101	068		Rel-4	B	Display of service provider name in the UE	4.2.0	4.3.0	S1-010209
SP-11	SP-010056	22.101	069		Rel-5	A	Display of service provider name in the UE	5.1.0	5.2.0	S1-010210
SP-11	SP-010057	22.101	070		Rel-5	C	CR to 22.101 on Clarifications on IMS emergency call support	5.1.0	5.2.0	S1-010250
SP-11	SP-010058	22.115	005		Rel-5	B	Introduction of charging for IPMultimedia and Event Based Charging	3.3.0	5.0.0	S1-010192
SP-11	SP-010059	22.121	018		Rel-4	F	Changes to TS 22.121 Release 4 - Update of 097 submitted to S1 Plenary	4.0.0	4.1.0	S1-010085
SP-11	SP-010059	22.121	019		Rel-5	B	The Virtual Home Environment (Release 5) Addition of User profile requirement and changes for clarification	4.0.0	5.0.0	S1-010169
SP-11	SP-010060	22.127	001		Rel-4	F	CR to 22.127 V 4.0.0 on CS Call Control (Release 4)	4.0.0	4.1.0	S1-010140
SP-11	SP-010060	22.127	002		Rel-4	F	CR to 22.127 V 4.0.0 on User interaction(Release 4)	4.0.0	4.1.0	S1-010141
SP-11	SP-010061	22.129	003		Rel-4	D	Editorial CR to correct references to releases	4.1.0	4.2.0	S1-010251
SP-11	SP-010062	22.140	004		Rel-4	C	Alignment of Stage 1 MMS to Stage 2 MMS	4.0.1	4.1.0	S1-010265
SP-11	SP-010062	22.140	005		Rel-4	C	Support for Streaming in MMS	4.0.1	4.1.0	S1-010016
SP-11	SP-010062	22.140	006		Rel-4	F	MM Forwarding	4.0.1	4.1.0	S1-010014
SP-11	SP-010062	22.140	007		Rel-4	B	New features in MMS R'4	4.0.1	4.1.0	S1-010015
SP-11	SP-010063	22.228	001		Rel-5	C	IMS to PSTN/ISDN interworking for basic voice calls only	5.0.0	5.1.0	S1-010246

Annex 3: TSs and TRs under SA1 responsibility

Type	Number	Title
TR	21.905	3G Vocabulary
TS	22.001	Principles of Telecommunication Services Supported by a GSM Public Land Mobile Network (PLMN)
TS	22.002	Bearer Services Supported by a GSM PLMN
TS	22.003	Teleservices Supported by a GSM Public Land Mobile Network (PLMN)
TS	22.004	General on Supplementary Services
TS	22.011	Service accessibility
TS	22.016	International Mobile Equipment Identities (IMEI)
TS	22.024	Description of Charge Advice Information (CAI)
TS	22.030	Man-Machine Interface (MMI) of the Mobile Station (MS)
TS	22.034	High Speed Circuit Switched Data (HSCSD) – Stage 1
TS	22.038	SIM application toolkit (SAT); Stage 1
TS	22.041	Operator Determined Call Barring
TS	22.042	Network Identity and Time Zone (NITZ), stage 1
TS	22.043	Support of Localised Service Area (SoLSA) – Stage 1
TS	22.057	Mobile Station Application Execution Environment (MExE); Stage 1
TS	22.060	General Packet Radio Service (GPRS); Stage 1
TS	22.066	Support of Mobile Number Portability (MNP); Stage 1
TS	22.067	enhanced Multi-Level Precedence and Pre-emption service (eMLPP) – Stage 1
TS	22.071	Location Services (LCS); Stage 1 (T1P1)
TS	22.072	Call Deflection (CD); Stage 1
TS	22.078	CAMEL; Stage 1
TS	22.079	Support of Optimal Routing; Stage 1
TS	22.081	Line Identification Supplementary Services; Stage 1
TS	22.082	Call Forwarding (CF) Supplementary Services; Stage 1
TS	22.083	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1
TS	22.084	MultiParty (MPTY) Supplementary Service; Stage 1
TS	22.085	Closed User Group (CUG) Supplementary Services; Stage 1
TS	22.086	Advice of Charge (AoC) Supplementary Services; Stage 1
TS	22.087	User-to-user signalling (UUS); Stage 1
TS	22.088	Call Barring (CB) Supplementary Services; Stage 1
TS	22.090	Unstructured Supplementary Service Data (USSD); Stage 1
TS	22.091	Explicit Call Transfer (ECT) Supplementary Service; Stage 1
TS	22.093	Call Completion to Busy Subscriber (CCBS); Stage 1
TS	22.094	Follow Me Stage 1
TS	22.096	Calling Name Presentation (CNAP); Stage 1 (T1P1)
TS	22.097	Multiple Subscriber Profile (MSP); Stage 1
TS	22.100	UMTS Phase 1
TS	22.101	UMTS Service principles
TS	22.105	Services & Service capabilities
TS	22.115	Service Aspects Charging and billing
TS	22.121	Provision of Services in UMTS – The Virtual Home Environment
TS	22.129	Handover Requirements between UMTS and GSM or other Radio Systems
TS	22.135	Multicall Stage1

Type	Number	Title
TS	22.140	Multimedia Messaging Service Stage 1
TR	22.907	Terminal concepts
TR	22.960	Mobile multimedia services
TR	22.971	Automatic establishment of roaming relationships
TR	22.972	Multimedia
TR	22.975	Advanced addressing
TR	22.976	Release 2000 services and capabilities
TR	23.927	VHE, Open Service Architecture