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TSG SA1 STATUS REPORT

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1 General Overview of Progress

The TSG_SA_WG1#14 Plenary Meeting was held in Saalfelden, Austria from the 11th to 15th February 2002. It was chaired by Mr Kevin Holley (mmO2) and the secretary was Mr Michael Clayton from the MCC. The host was Siemens AG.

2 External Liaisons

The following liaison statements have been sent from SA1 to external bodies.

Document Number	Title	To	Copy	Sent
S1-020476	LS to SA2 on GMLC-GMLC interface	SA2	GSMA SerG	19/02/2002
S1-020484	Requirements for Location Based Services Accuracy Classes	GSMA SerG	RAN2, RAN4	25/02/2002
S1-020518	Liaison Statement on 3GPP TSG SA WG 1 MMS SWG	WAPF, SERG, MSIG, T2, T3, SA5, SA4		25/02/2002
S1-020648	Reply to LS regarding DRM requirements	WAP Forum	SA	25/02/2002
S1-020660	GUP LS to T2 and CN4 on establishment of requirements	WAPForum, SERG, TWG	T2 SA	19/02/2002

3 Change Requests for Rel-4 or earlier

3.1 Clarification on the interpretation of the term “country” (22.011)

At SA #14 SA1 submitted CRs to change the interpretation of the term “country”. It is possible that in the future each country could be allocated more than one country code. Currently, this is not catered for in the standards and so it was identified in SA1 that the standard must be prepared for this scenario.

The CRs were withdrawn at SA #14, but after some substantial discussion SA1 is presenting some new CRs with revised text.

The CRs to make this clarification are provided in document SP-010042 for R99 and Rel-4.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-010042	22.011	044		R99	F	CR to 22.011 R99: clarification of the term 'country'	3.6.0	3.7.0	S1-020662
SP-15	SP-010042	22.011	045		Rel-4	A	CR to 22.011 Rel-4: clarification of the term 'country'	4.5.0	4.6.0	S1-020663

3.2 Location Services (22.071)

At its last meeting SA1 identified a potential loophole in the privacy settings for LCS. The current specifications on privacy while roaming, allow the unauthorised location of a mobile station while this is roaming in a visited network. This CR is aimed to resolve this problem by clarifying that the LCS client shall be authorised by the HPLMN of the subscriber.

The CR for R99 is provided in document SP-020043 together with corresponding CRs to Rel-4 and Rel-5 for approval.

SP-15	SP-020043	22.071	034		R99	F	CR 22.071 Rel.99 F Closure of a loophole in the privacy settings	3.3.0	3.4.0	S1-020453
SP-15	SP-020043	22.071	035		Rel-4	A	CR 22.071 Rel-4 A Closure of a	4.3.0	4.4.0	S1-020454

							loophole in the privacy settings			
SP-15	SP-020043	22.071	036		Rel-5	A	CR 22.071 Rel-5 A Closure of a loophole in the privacy settings	5.0.0	5.1.0	S1-020455

3.3 CAMEL (22.078)

In Release 99, TS 22.078 states a requirement on CSE supplied AoC parameters, without distinguishing between the circuit switched and packet switched domains. But, CAMEL phase 3 also currently carries a requirement for CSE supplied Advice of Charge (AoC) parameters to the SGSN for CAMEL/GPRS interworking, although AoC is not supported in GPRS Release 99, Release 4 or Release 5.

As part of CAMEL Phase 3, CN2 has completed the CAMEL specific work to support AoC parameters received from a CSE in a view of making the *sgsnSSF* (the CAMEL specific part of the SGSN). This was done as we had anticipated that this supplementary service would eventually be included in a release after Release 99.

As part of CAMEL Phase 3 however, CN2 have completed the CAMEL specific work to support AoC parameters received from a CSE in a view of making the CAMEL specific part of the SGSN ready to process the AoC information when received from the CSE; i.e. to make it “*feature-ready*”.

There are two options:

- Remove the requirement from CAMEL Phase 3 (and subsequent phases) specification. The implication to this is that the stage 2 and stage 3 specifications for Release 99, Release 4 and Release 5 need to be modified to reflect this.
- Reword the requirement, such that it remains in CAMEL Phase 3, indicating that this may be supported only in future releases of GPRS, when the AoC supplementary service. A SGSN may discard any parameters received from the CSE if the supplementary service is not supported.

In order to avoid unnecessary work in CN2 to remove the support of this feature, SA1 decided to add a health warning is required to indicate that support of AoC in GPRS is not available in R99.

The CRs to implement this are provided for approval in document SP-020044.

SP-15	SP-020044	22.078	136		R99	F	CR to 22.078 on removal of handling of e-parameters provided by the SCP	3.8.0	3.9.0	S1-020627
SP-15	SP-020044	22.078	137		Rel-4	A	CR to 22.078 on removal of handling of e-parameters provided by the SCP	4.4.0	4.5.0	S1-020628
SP-15	SP-020044	22.078	138		Rel-5	A	CR to 22.078 on removal of handling of e-parameters provided by the SCP	5.5.0	5.6.0	S1-020629

3.4 Editorial CRs to correct terms and references

With the deletion of GSM 04.08, SA1 has undertaken a clean-up of its specifications to correct the references to all TSs and has normalised the terms used therein. The clean up was applied to Release 4 since many of the specifications involved did not have Release 5 versions and rather than use this clean up to produce them, it was decided to use Release 4. Moreover, this does not pre-empt any decision as to which Release 4 TS will be brought into Release 5.

The one exception is the Rel-4 CR to 22.060. This was provided to SA1, but required an update for which there was no time in SA1. Therefore the CR to Rel-5 is included in this package for completeness and it is expected that a company contribution will be provided at SA #15.

There are, however, some specs like the SIM specs (22.038) that still needing update for release 5. Moreover, some specs are likely to be updated due to GERAN Iu and postponed IMS features.

The resulting CRs are provided in document SP-020045 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020045	22.001	007	-	Rel-5	F	Editorial CR to correct terms and references	4.2.0	4.3.0	S1-020457
SP-15	SP-020045	22.003	009	-	Rel-4	F	Editorial CR to correct terms and references	4.2.0	4.3.0	S1-020457
SP-15	SP-020045	22.003	010	-	Rel-5	A	Editorial CR to correct terms and references	5.0.0	5.1.0	S1-020457
SP-15	SP-020045	22.004	005	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.016	006	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.030	010	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.042	003	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.057	008	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.057	009	-	Rel-5	A	Editorial CR to correct terms and references	5.2.0	5.3.0	S1-020457
SP-15	SP-020045	22.060	022		Rel-5	F	CRs 22.060 rel 5 on change of references	5.0.0	5.1.0	S1-020463
SP-15	SP-020045	22.067	003	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.071	038	-	Rel-4	F	Editorial CR to correct terms and references	4.3.0	4.4.0	S1-020457
SP-15	SP-020045	22.071	039	-	Rel-5	A	Editorial CR to correct terms and references	5.0.0	5.1.0	S1-020457
SP-15	SP-020045	22.078	142	-	Rel-4	F	Editorial CR to correct terms and references	4.4.0	4.5.0	S1-020457
SP-15	SP-020045	22.078	143	-	Rel-5	A	Editorial CR to correct terms and references	5.5.0	5.6.0	S1-020457
SP-15	SP-020045	22.081	004	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.082	004	-	Rel-4	F	Editorial CR to correct terms and references	4.2.0	4.3.0	S1-020457
SP-15	SP-020045	22.083	003	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.084	002	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.085	003	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.088	002	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.094	002	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.097	004	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.101	091	-	Rel-4	F	Editorial CR to correct terms and references	4.5.0	4.6.0	S1-020457
SP-15	SP-020045	22.101	092	-	Rel-5	A	Editorial CR to correct terms and references	5.4.0	5.5.0	S1-020457
SP-15	SP-020045	22.105	034	-	Rel-4	F	Editorial CR to correct terms and references	4.2.0	4.3.0	S1-020457
SP-15	SP-020045	22.105	035	-	Rel-4	A	Editorial CR to correct terms and references	5.0.0	5.1.0	S1-020357
SP-15	SP-020045	22.121	023	-	Rel-4	F	Editorial CR to correct terms and references	5.2.0	5.3.0	S1-020457

SP-15	SP-020045	22.127	042	-	Rel-4	F	Editorial CR to correct terms and references	4.3.0	4.4.0	S1-020457
SP-15	SP-020045	22.127	043	-	Rel-4	A	Editorial CR to correct terms and references	5.2.0	5.3.0	S1-020457
SP-15	SP-020045	22.135	009	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.140	011	-	Rel-4	F	Editorial CR to correct terms and references	4.1.0	4.2.0	S1-020457
SP-15	SP-020045	22.140	012		Rel-5	D	Editorial CR 22.140 Rel.5 D - Update of references and general requirements	5.0.0	5.1.0	S1-020468
SP-15	SP-020045	22.140	012	-	Rel-4	A	Editorial CR to correct terms and references	5.0.0	5.1.0	S1-020457
SP-15	SP-020045	22.146	030	-	Rel-4	F	Editorial CR to correct terms and references	5.1.0	5.2.0	S1-020457
SP-15	SP-020045	22.226	002	-	Rel-4	F	Editorial CR to correct terms and references	5.1.0	5.2.0	S1-020457
SP-15	SP-020045	22.228	012	-	Rel-4	F	Editorial CR to correct terms and references	5.4.0	5.5.0	S1-020457

4 Change Requests for Rel-5

4.1 Definitions and Abbreviations (21.905)

In its role as guardian of 21.905, SA1 has once again collected the inputs to the Definitions and Abbreviations TR.

The result is a number of CRs which are provided in document SP-020046 for approval.

SP-15	SP-020046	21.905	030		Rel-5	B	CR to 21.905: new definition of the term 'service'	5.2.0	5.3.0	S1-020393
SP-15	SP-020046	21.905	032		Rel-5	B	CR 21.905 Rel.5 B Introduction of the definitions of "pre-pay" and "post-pay" billing	5.2.0	5.3.0	S1-020452
SP-15	SP-020046	21.905	033		Rel-5	F	CR to 21.905: Replacement of the term UMTS with 3GPP system	5.2.0	5.3.0	S1-020526
SP-15	SP-020046	21.905	034		Rel-5	B	CR to 21.905: missing abbreviations	5.2.0	5.3.0	S1-020527
SP-15	SP-020046	21.905	035		Rel-5	B	CR to 21.905: new definition of the term 'application'	5.2.0	5.3.0	S1-020528
SP-15	SP-020046	21.905	036		Rel-5	B	CR to 21905: definitions of online and offline charging	5.2.0	5.3.0	S1-020617
SP-15	SP-020046	21.905	037		Rel-5	B	CR to 21.905: Improved definition of the term "application"	5.2.0	5.3.0	S1-020620

4.2 Location Services (22.071)

With the imminent completion of Release 5, SA1 has performed some sanity checks on its TSs and feature. The following describes a number CRs to 22.071.

CR 22.071-030 contains changes related to the location requestor's identity, which has requested the location of the target UE from the LCS client. The target UE users may require the information about the entity, but in the current specification there is no description about this entity.

CR to 22.071-031 contains changes on introducing service type privacy for location services. The user may wish to differentiate between privacy requirements even with one LCS Client, depending on which service the user requests from this LCS client or which service the LCS client offers to the user.

CR to 22.071-032 contains the introduction of a Codeword Setting. These changes make it possible to protect the privacy of a Target UE user against monitoring of the Target UE's location by third parties.

CR to 22.071-033 contains changes on Service requirements for Requestor. Currently the service requirements for enhanced user privacy in location services is described in TR 23.871. This CR moves and clarifies the service requirements on requestor to TS 22.071. This was done in response to a liaison statement from SA2 and a request made in SA #14.

CR 22.071-037 contains changes related to Deferred Location Request with Change of Area Event. Currently LDR (Location Deferred Request) does not allow GMLC to request LCS Service with Change of Area event, although the network would be able to provide this information (inform GMLC when MS/UE changes its location).

These CRs are provided in document SP-020047 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020047	22.071	030		Rel-5	B	CR 22.071 Rel.5 B Requestor	5.0.0	5.1.0	S1-020467
SP-15	SP-020047	22.071	031		Rel-5	B	CR 22.071 Rel.5 B Introducing service type privacy for location services	5.0.0	5.1.0	S1-020478
SP-15	SP-020047	22.071	032		Rel-5	C	Introduction of a Codeword Setting	5.0.0	5.1.0	S1-020479
SP-15	SP-020047	22.071	033		Rel-5	B	CR to 22.071 on Clarifying checking of requester ID	5.0.0	5.1.0	S1-020632
SP-15	SP-020047	22.071	037		Rel-5	B	CR 22.071 Rel.5 B Deferred Location Request with Change of Area Event	5.0.0	5.1.0	S1-020466

4.3 CAMEL (22.078)

CR to 22.078-134r1 contains changes to remove CAMEL4 Dialed Services Enhancements. The work has not progressed on this item and the Rel-5 CAMEL4 needs to be completed in March 2002 CN plenary. This functionality of CAMEL4 requires still CN2 work and endangers the CAMEL4 time scale and both CN2#21 and CN#14 did agree to recommend removal of this functionality.

There was some concern in SA1 on removing this feature; particularly if a precedent is being set. However, if the feature is not finished by CN, then it must be taken out of the release. It was agreed in principle in SA1 to send this CR to SA #15 for approval with one reservation from C-DOT.

CR 22.078-135 contains changes related to Mobility Management event reporting in the PS domain. CN2 has reviewed change requests against the stage 2 & stage 3 specifications for CAMEL to meet the requirements in CR 22.078-128r1 which was approved at SA #14. However, CR included the addition of the event 'Network initiated transfer to "MS not reachable for paging"', but did **not** include the addition of the event 'Network initiated GPRS detach'.

CN2 has taken a working assumption in preparing the stage 2 & stage 3 CRs that the CSE should be able to request reporting of the event 'Network initiated GPRS detach' and has informed SA1 of this in a liaison statement. SA1 is confirming the working assumption that the CSE should be able to request reporting of the event 'Network initiated GPRS detach' and has adopted the proposed CR 22.078-135.

CR 22.078-139 relates to the ability to transfer the MS classmark & IMEI to the CSE (update of S1-020301). CAMEL currently allows the GPRS MS class information to be transferred to the CSE for CAMEL control of GPRS traffic. With the increasing complexity

of CAMEL services, the equivalent capability for CS mode would be very useful.

In addition, transfer of the IMEI (with software version) to the CSE would provide a reliable method for the HPLMN operator to identify the specific model of the handset for customer care purposes.

CR 22.078-140 contains a clarification on Releasing Individual Call Parties. If an individual call party is released during the set-up phase of a *normal A-B* call, this causes problems in the MSC and makes the SDL modelling very difficult.

CR 22.078-141 contains changes to introduce functional subsets for CAMEL Phase 4. In SA1 it was reported that this CR was generally agreed to in CN2, but there was not time to approve this and so it was agreed to bring this to SA1 as a company input.

A similar problem arose some time ago and a liaison statement was sent to SERG asking what to do. The answer was that the operators wanted each phase of CAMEL to support the functionality of the previous phase. So, with this proposal, it is not clear what the support of the CAMEL is in a network since the functionality is no longer related to the phase.

However, the proposal in this CR contains the possibility to negotiate the capabilities between networks. Based on this, the CR was conditionally agreed in SA1 and if in subsequent discussion a better way forward is found, it can be withdrawn.

It is expected that there will be a discussion paper into SA#15 on this.

All of the above CRs are provided in document SP-020048 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020048	22.078	134	1	Rel-5	B	Removal of CAMEL4 Dialled Services Enhancements	5.5.0	5.6.0	S1-020625
SP-15	SP-020048	22.078	135		Rel-5	C	Mobility Management event reporting in the PS domain	5.5.0	5.6.0	S1-020008
SP-15	SP-020048	22.078	139		Rel-5	C	CR 22.078 Rel.5 Transferring the MS classmark & IMEI to the CSE (update of 301)	5.5.0	5.6.0	S1-020418
SP-15	SP-020048	22.078	140		Rel-5	C	Clarification on Releasing Individual Call Parties	5.5.0	5.6.0	S1-020358
SP-15	SP-020048	22.078	141		Rel-5	B	Introduction of functional subsets for CAMEL Phase 4	5.5.0	5.6.0	S1-020317

4.4 Service principles (22.101)

A number of change requests have been elaborated for 22.101 which are described below.

4.4.1 IMS Access

Some concern was expressed in SA1 regarding backwards compatibility with access to IMS services using r99 and r4 UICCs. It is possible that the USIM may not be backwardly compatible resulting in the need to swap out millions of r99 and r4 USIMs at great cost to the operator.

Therefore, a new requirement is being added to the UICC section of the specification to state the need for backward compatibility.

It is presented in document SP-020049 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020049	22.101	088		Rel-5	C	CR to 22.101 on IMS access	5.4.0	5.5.0	S1-020510

4.4.2 Access to IMS using ISIM

CR 22.101-090 contains the addition of new section describing service requirements for ISIM in section 13. This did cause some debate in SA1, but based on the adoption in principle by SA #14 and to align the highlevel service requirement “access independence” between 22.101 and TS 22.228 the CR was agreed.

It is presented in document SP-020050 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020050	22.101	090		Rel-5	C	CR to 22.101 on Access to IMS services using ISIM	5.4.0	5.5.0	S1-020658

4.4.3 USIM support in Rel-5 GSM only terminals

At the last meeting of SA1, a liaison statement from T was received on USIM support in Rel-5 GSM only terminals. During TSG-T#14 in Kyoto, TSG-T has become aware that clause 13 "UICC, USIM and Terminal" of the SA1 requirements specification TS 22.101 "Service Aspects" may need to be updated to take into account the TSG-T decision from TSGs #11 in Palm Springs, that TS 51.011 would not be maintained beyond Release 4.

The meeting was informed that there is now a version of 51.011. Since it is not clear what is the current state of play, it was decided to create a CR (22.101-089) and send it just in case.

The CR is provided in document SP-020051 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020051	22.101	089		Rel-5	C	CR to 22.101 on on USIM support in Rel-5 GSM only terminals	5.4.0	5.5.0	S1-020613

4.4.4 Service change and fallback for UDI/RDI multimedia calls

Also at it's last meeting, SA1 received a liaison statement from CN4 on Service Change and Fallback for UDI/RDI Multimedia Calls. CN4 are requesting some requirements to be put into the stage 1 (22.101) based on the work which has been done in CN4 on this work item.

A CR 22.101 to correct this is provided document SP-020052. There was some concern on accepting this for release 5. Also there was a question as to “The user shall be able to deny a service change to multimedia during the call” means. Nonetheless it was agreed to send this CR to SA #15 for approval with one reservation from Nokia that this may not be possible in the Rel-5 timeframe.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020052	22.101	087		Rel-5	B	CR 22.101 Rel.5 B Service change and fallback for UDI/RDI multimedia calls	5.4.0	5.5.0	S1-020609

4.5 Charging and billing (22.115)

At its last meeting SA1 received a delegation from the GSM Association SERG group. The GSM Association SerG has approved a new Permanent Reference Document, SE.33, that defines operator requirements for the charging of 3G IP multimedia services and the GSM Association has also established a CPWP (Charging Principles Working Party) to elaborate the operators' charging requirements for key services and features.

Based on this, a proposed CR was presented to 22.115 on IP Multimedia Charging Guidelines. The CR adds some new requirements and high level principles stated in clause 4. New clause and related sub-clauses added to define detailed specific charging requirements for IP-Multimedia services. Sub-clause on prepay charging moved before the clause "Generation of Call Detail Records". "UMTS" replaced by "3GPP system". Prepay definition removed.

The CR was revised by SA1 and is presented in document SP-020053 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020053	22.115	007		Rel-5	B	CR 22.115 Charging and billing	5.1.0	5.2.0	S1-020643

4.6 OSA (22.127)

SA1, and the SA1 OSA ad hoc, has continued work on OSA for Release 5. The following is a summary of the changes agreed in SA1:

CR 22.127-034 contains some editorial corrections.

CR 22.127-035 contains a change to clarify how the OSA functions can be used to build a service. A service scenario is described and for each of the service steps the OSA functions used are detailed.

CR 22.127-036 contains changes to clarify the OSA network capabilities retrieval requirement.

CR 22.127-037 contains changes to clarify OSA functions related to user's status. The status of the user is described in the current TS as either linked with the availability (which has a specific meaning since version 5.2.0) or with the attachment/busy information. Moreover the case where a notification is sent when a user becomes busy is mentioned in clause 12, but is not detailed in section 13.3.1.

CR 22.127-038 contains changes to correct "Service Capability Feature" to "network entities". 3GPP TSG CN5 has identified an incorrect wording in chapter 6, High Level Requirements. The current wording is misleading. It is proposed to adapt CN5 suggestion and reword the bullet point accordingly.

CR 22.127-039 contains changes on OSA Charging Requirements; currently an OSA

application can only deduct an amount from a single subscriber's account. For mobile commerce it is necessary to split the charge among several subscribers.

CR 22.127-040 contains changes to section numbering on security requirements on User Profile Management.

CR 22.127-041 contains changes on Charging Requirements. For security reasons it is necessary that OSA supports a procedure that enables an application to ask the charged user for an explicit, interactive confirmation before any charging operation is performed.

All of the above CRs are provided in document SP-020054 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020054	22.127	034		Rel-5	D	Editorial Corrections	5.2.0	5.3.0	S1-020267
SP-15	SP-020054	22.127	035		Rel-5	B	OSA use cases	5.2.0	5.3.0	S1-020268
SP-15	SP-020054	22.127	036		Rel-5	C	CR on Network Capability Retrieval	5.2.0	5.3.0	S1-020269
SP-15	SP-020054	22.127	037		Rel-5	F	Clarification of OSA functions related to user's status	5.2.0	5.3.0	S1-020270
SP-15	SP-020054	22.127	038		Rel-5	F	CR to 22.127 R5 on Correction of Service Capability Feature to SC Server	5.2.0	5.3.0	S1-020271
SP-15	SP-020054	22.127	039		Rel-5	C	CR on Charging Requirements	5.2.0	5.3.0	S1-020283
SP-15	SP-020054	22.127	040		Rel-5	F	Security requirements on User Profile Management	5.2.0	5.3.0	S1-020338
SP-15	SP-020054	22.127	041		Rel-5	C	CR to 22.127 R5 on Charging Requirements	5.2.0	5.3.0	S1-020591

4.7 Multimedia Messaging (22.140)

CR 22.140-010 contains changes to add Support of "Recipient Party pays" charging model in MMS since some usage cases of MMS require it for the termination of a message. This requirement is currently not specified in MMS Stage 1.

CR 22.140-011 contains changes on addressing. This change is based on an agreement in the SA1 SWG meeting to accept the GSMA's wish to update the MMS Stage 1 to require both MSISDN and e-mail addressing schemes to be supported by MMS. This allows operator choice of MMS addressing schemes.

CR 22.140-012 contains changes related to MMS Configuration. The configuration parameters for MMS are currently stored in the ME, if the user wants to attain service, those parameters must be configured manually.

The purpose of this CR is to place these parameters in the USIM. In this way the issuers of the USIM could provide the configuration parameters of their services dynamically thus improving the user experience. Moreover, the presence of the configuration parameters in the USIM will enable the user to change terminal without having to re-configure it.

All of the above CRs are provided in document SP-020055 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020055	22.140	010		Rel-5	B	CR 22.140 Rel. 5 B Support of "Recipient Party pays" charging model in MMS	5.0.0	5.1.0	S1-020517
SP-15	SP-020055	22.140	011		Rel-5	B	CR to 22.140 on addressing	5.0.0	5.1.0	S1-020209

SP-15	SP-020055	22.140	013		Rel-5	B	CR 22.140 Rel. 5 MMS Configuration	5.0.0	5.1.0	S1-020622
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4.8 Presence (22.141)

Since the approval of 22.141 at SA #13, SA1 has continued its work on the Presence service and has elaborated a number of CRs. The following is a summary of the changes agreed in SA1:

CR 22.141-009 contains a brief introduction to the Presence Service. An new informative subclause is to be added to provide a simplistic introduction to the basics of the Presence Service. The subclause identifies a user of the presence service and how he is supported by it. It describes (using a series of simplistic figures) how other users may or may not have access to the user's presence information, and how the user can control it depending on the individual watcher.

CR 22.141-010 contains some correction to the number of roles in the Presence Service. Clause 4 refers to the 3 roles of, when only 2 are subsequently identified. The reference to the 3 roles is changed to 2 roles. Note that originally 3 roles had been defined, and one of the roles was removed during the development of the specification, however the introductory sentence was not modified accordingly.

CR 22.141-011 contains changes related to Selective Notifications. In order to reduce the load of notifications in the network, notifications should only be issued if an attribute changes, and if a watcher has asked to be notified whenever this specific attribute changes. In the management section, a requirement is modified in order to allow a watcher to define during the watcher-subscription which attributes shall trigger notifications when their values change.

CR 22.141-012 contains clarifications on identifier's hiding. The requirement granting the ability for a watcher and a presentity to withhold their identifiers comes from an earlier confusion in the vocabulary and is unclear as it currently stands. The confusing requirement is removed and anonymous watcher-subscriptions, which were briefly mentioned in the TS, are detailed.

CR 22.141-013 contains changes on multiple terminal support in presence service. A requirement has been added that enables access to presence information simultaneously from multiple terminals e.g. presentity or watcher would be able to access the presence service via mobile phone or PC. A requirement to enable multiple terminal use simultaneously to access presence service has been added.

CR 22.141-014 contains changes on access from external applications. At the moment the access of external applications in Home Environment is not clear. The possibility for an external application to be presentity/watcher has been added. Access to the presence service from external applications is clarified as a requirement

All of the above CRs are provided in document SP-020056 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020056	22.141	009		Rel-5	D	A brief introduction to the Presence Service	5.1.0	5.2.0	S1-020306
SP-15	SP-020056	22.141	010		Rel-5	D	Correction to the number of roles in the Presence Service	5.1.0	5.2.0	S1-020307
SP-15	SP-020056	22.141	011		Rel-5	C	CR 22.141 Rel.5 Selective Notifications	5.1.0	5.2.0	S1-020430
SP-15	SP-020056	22.141	012		Rel-5	F	CR to 22.141 - Clarifications on identifier's hiding	5.1.0	5.2.0	S1-020602

SP-15	SP-020056	22.141	013		Rel-5	C	CR to 22.141 on Multiple terminal support in presence service	5.1.0	5.2.0	S1-020619
SP-15	SP-020056	22.141	014		Rel-5	C	Access from external applications	5.1.0	5.2.0	S1-020623

4.9 MBMS (22.146)

Since is approval at SA #13, a number of changes have been proposed to 22.146 for Multimedia Broadcast/Multicast Service.

The follow is a summary of the changes agreed at SA1:

CR 22.146-024 contains changes on Area Specific QoS for Broadcast and Multicast Services. The current specification allows for multiple transmissions with differing QoS to be provided to different multicast or broadcast areas within the framework of a single service. This ability is clearly stated when multicast or broadcast areas are discussed but unfortunately the text regarding quality-of-service has not been appropriately changed to offer the possibility for differentiation of QoS per multicast or broadcast area.

CR 22.146-025 contains changes on Multicast mode. This CR proposes two changes to the stage 1 on re-transmissions and IP Multicast interoperability: -

It has been agreed in S1 Plenary that link layer re-transmissions are not suitable for point-to-multipoint multicast links. Further correspondences have confirmed that guaranteeing data delivery could be a function of upper layers.

S2 have agreed that MBMS shall allow interoperability with IETF IP Multicast.

CR 22.146-026 contains an addition of MBMS multicast mode and broadcast mode definitions. The current specification is missing a definition in the definitions section for multicast mode. The broadcast mode definition is also lacking as it simply refers to the broadcast service definition. In previous SA1 MBMS ad-hoc it was indicated that an update on both definitions is desired.

CR 22.146-027 contains changes on MBMS Broadcast and Multicast Sessions. The current specification does not deal with the possibility of using MBMS for intermittent transmissions. Presumably, MBMS might be used to transmit relatively short message or updates to users who choose to receive them, over an extensive period of time. While the current specification does not rule these out, it is considered valuable to state that such applications are possible and to deal with resulting service requirements.

CR 22.146-028 contains changes on power consumption minimisation for MBMS. The minimization of power consumption is an essential issue for terminals in order to increase their operating time. Nevertheless, this requirement is not yet included in the current stage 1 on MBMS (TS 22.146).

CR 22.146-029 contains changes an editorial change.

All of the above CRs are provided in document SP-020057 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020057	22.146	024		Rel-5	F	CR 22.146 Rel. 5 F Area Specific QoS for Broadcast and Multicast Services	5.1.0	5.2.0	S1-020125
SP-15	SP-020057	22.146	025		Rel-5	F	CR 22.146 Rel. 5 F Clause 4.2 Multicast mode	5.1.0	5.2.0	S1-020128

SP-15	SP-020057	22.146	026		Rel-5	F	CR 22.146 Rel. 5 F Addition of MBMS multicast mode and broadcast mode definitions	5.1.0	5.2.0	S1-020133
SP-15	SP-020057	22.146	027		Rel-5	B	Proposed CR on MBMS Broadcast and Multicast Sessions	5.1.0	5.2.0	S1-020563
SP-15	SP-020057	22.146	028		Rel-5	B	Power consumption minimisation for MBMS	5.1.0	5.2.0	S1-020565
SP-15	SP-020057	22.146	029		Rel-5	F	CR to 22.146 (MBMS stage 1) 'Editorial Change'	5.1.0	5.2.0	S1-020646

4.10 IMS (22.228)

The work on IMS has been stable in SA1 for some time now. However, two CRs are presented for approval at this meeting. They are:

CR 22.228-010 which contains an introduction of IMS public identities and other related requirements. There can be several public identities for one subscriber. Text on operator verification of public identities is added for clarity.

CR 22.228-011 which contains the introduction of USIM/ISIM on single UICC. This CR modifies the current text within Section 5 to include the following requirement: In R5 the ISIM application shall require the presence of a USIM application on the same UICC.

The above CRs are presented in document SP-020058 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020058	22.228	010		Rel-5	B	CR 22.228 Rel. 5, IMS Addressing	5.4.0	5.5.0	S1-020507
SP-15	SP-020058	22.228	011		Rel-5	B	CR to 22.228 on ISIM	5.4.0	5.5.0	S1-020657

5 New TSs/TRs

5.1 Wireless Local Area Network (WLAN) interworking

Further to the approval of the WID, SA1 has been working on the feasibility study on 3GPP system to Wireless Local Area Network (WLAN) interworking for Rel-6 (TR 22.934).

The feasibility study on 3GPP system – WLAN Interworking has identified and described 6 scenarios for Interworking. These scenarios range from common billing and 3GPP system based access control to seamless services. Each scenario realises an additional step into integrating WLAN in the cellular service offering. The 3GPP system based access control, scenario 2, has received significant effort and its related service requirements have been included in the TR. The common billing scenario, scenario 1, has also received interest, but SA1 has not identified any standardisation work needed within 3GPP for supporting this scenario. Some initial requirements on the seamless services scenario, scenario 5, were also identified.

The TR is presented for information in document SP-020059.

5.2 Priority Service Feasibility Study Report

SA1 has also been working on the feasibility study on Priority Service for Rel-6 (TR 22.950).

The study has been looking at Priority Services as an End-to-End Service with Scenarios:

- Mobile-Mobile
- Mobile-Fixed
- Fixed-Mobile

SA1 has identified high-level requirements of Priority Service, has determined existing relevant 3GPP specifications that support Priority Service requirements and performed a Gap Analysis.

The high level requirements are:

- Priority Call Origination
- Priority Call Termination
- Priority Progression
- Priority Queuing
- Priority Level & PIN
- Invocation on Demand
- Applicable to Voice & Data
- Authorized by Subscription
- Authorized by PIN
- Priority Service Feature Code
- Priority Service Supported during Intersystem Roaming
- Priority Service Supported during Intersystem Handover
- Priority Service Call Detail Record

The outstanding issues are:

- Multimedia and non-circuit switched aspects of Priority Service have not been addressed in this feasibility study and are for further study.
- There are concerns for a PIN-based solution of Priority Services. This item is for further study.

It is presented for information in document SP-020060.

5.3 Digital Rights Management (22.242)

TS 22.242 defines the stage one description for digital rights management containing the requirements to be supported in order to enable digital rights management, from content packaging to secure storage and rendering.

It is provided in document SP-020061 for information.

5.4 Streaming Services

SA1 has continued work on the streaming service for release 5. SA1 believes the stage 1 is ready for approval. Chapter about Service interaction has been added. Charging chapter has been updated. User profile work is not referenced since the User Profile work is not included in the release 5 time frame. One new requirements has been added in chapter 5, *“The service provider should have the means by which a streaming session can be gracefully terminated (e.g. in a prepay scenario when the user’s account has run out of credit)”*. Several editorial issues have been taken care of.

It is presented in document SP-020062 for Approval.

In anticipation of this, SA1 has identified some changes to other specifications related to

streaming.

The first is CR 21.905-031 which contains an introduction of new abbreviations derived of the approval of 3GPP TS 23.236.

The second CR contains some End-user performance expectations-Streaming Services.

Both CRs are presented document SP-020063 for approval.

SA	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc.No.
SP-15	SP-020063	21.905	031		Rel-5	B	CR 21.905 Rel. 5 Introduction of new abbreviations derived of the approval of 3GPP TS 23.236	5.2.0	5.3.0	S1-020431
SP-15	SP-020063	22.105	033		Rel-5	F	End-user performance expectations-Streaming Services	5.0.0	5.1.0	S1-020635

5.5 UE Functionality Split (22.944)

The work item UE Functionality Split arose following the decision of SA #12 to delete the CN1 building block Multimedia Capabilities. SA1 proposed a WI under its control that was approved at SA #13.

SA1 has been working on this task and has now created a TR 22.944, which is believes is sufficiently stable to be presented for approval.

It is provided in document SP-020064 for Approval.

6 WIs from SA1

6.1 New WIs from SA1

6.1.1 IMS messaging

In the process of working on IMS SA1 identified that a new WI on IMS messaging was required. This WID covers the support of messaging in the IMS as part of the Release 6 timeframe. By combining the support of messaging with other IMS service capabilities, such as Presence, new rich and enhanced messaging services for the end users can be created.

Support of messaging in the IMS shall enable various messaging services like Instant Messaging, Chat, Store and Forward Messaging with rich multimedia components.

Support of messaging in the IMS shall also ensure continuation of existing SMS, EMS, and MMS messaging solutions from end user point of view. This work will determine interaction of existing messaging solutions and messaging in the IMS. This interaction may include interworking functionality in the 3GPP system.

The WI is presented in document SP-020065 for approval.

6.1.2 IMS Group Management

This WID covers the new Group Management capability based on the IMS architecture as part of the Release 6 timeframe. By combining this Group Management capability with other IMS Service capabilities, such as Presence and Messaging, new rich and enhanced

services for the end users can be created.

The Group Management enables the general service concepts by mean of a group of persons and their properties related to the group. The Group Management capability can enhance the services offered by IMS with the service components of group management. This Group Management Capability enhances all kind of IMS enabled services, like messaging services (Instant Messaging, Chat), conference and group call/session services with different real and non-real time media components, etc..

It is also provided in document SP-020065 for approval.

6.1.3 Scope of the Open Service Access Release 6

The work on OSA in Release 5 is stable and has been for some time. However, in the process of tidying up the stage1 it has become clear that work on OSA for release 6 is required.

The work item describes the requirements on the Open Service Access to offer sufficient opportunities for the creation of value added services by third parties. The objective of this work item on OSA Release 6 is to enhance the OSA interface of previous releases.

It is presented in document SP-020065 for approval.

6.1.4 Presence Service Enhancements

The Presence Service was developed as part of Release 5, with the Stage 1 requirements stable and work commenced on the Stage2/3 specifications. Based on the feasibility of this timescale, a WI for Rel-6 has been developed.

This WID covers any maintenance and enhancements which may be considered necessary or useful as part of the Release 6 timeframe.

The objectives of this work item are to refine and further develop support of the presence service to facilitate presence-enabled (multimedia) services in a wireless network.

In particular, updates to the requirements may be necessary as the Stage 2/3 work progresses. Further requirements enhancements covering privacy, security, charging or other areas may also be developed.

It is the last document to be presented for approval in SP-020065.

6.2 Updated WIs from SA1

6.2.1 The 3GPP Generic User Profile (updated)

An update to the GUP WID was provided at the last meeting of SA1. The main change is in section 10 to update the timing.

At SA1, it was commented that the stage 2 and stage 3 have progressed and are available before the stage 1. This subject is dealt with in a separate liaison statement from SA1 to SA. However, this update is a proposal for a change to the timescales.

It is provided in document SP-020066 for approval.

6.2.2 WLAN Interworking WID (Updated)

The work on WLAN interworking has progressed well in SA1 to the extent that it is proposed to start involving SA2 in the architecture work and to start doing specification for scenarios 1 and 2 (as can be seen in document SP-02059 TS 22.934 presented for information).

Based on this, it was decided to update the WID. This is provided in document SP-020066 for approval.

7 Meetings of SA1

7.1 Meetings since last SA

The following meetings have been held since SA #13.

Meeting	Date	Place	Host
GUP	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
OSA#10	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
IP Framework#4	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
MBMS#4	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
DSR	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
WLAN	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
PUSH	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
LCS	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
DRM	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
MMS	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
Priority	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
UE Funct Split	15-18th Jan 2001,	Phoenix, Arizona, USA	AWS & Rogers Wireless
S1#15	11-15th Feb 2001,	Saalfelden, Austria	Siemens AG.

7.2 Planned meetings

The meeting schedule, was reviewed in the meeting. Proposals for hosts would be gratefully received.

SA1 Plenary

SA1#16	13 -17 May 2002,	Victoria, Canada hosted by AWS
SA1#17	12 – 16 August 2002,	Durango, Colorado, USA hosted by SBC
SA1#18	11 - 15 November 2002,	Korea, hosted by Samsung
SA1#19	24-28 February 2003,	No Host
SA1#20	12-16 May 2003,	USA, hosted by North American Friends of 3GPP
SA1#21	25-29 August 2003,	Sweden, hosted by Telia
SA1#22	10-14 November 2003,	No Host

SA1 SWGs

SA1 SWGs	8-12 April 2002,	Sophia Antipolis (moved from 15-19 Apr)
SA1 SWGs	8-12 July 2002,	Italy (location tba) hosted by TIM

SA1 SWGs	14-18 October 2002,	Taiwan, co-located with SA2
SA1 SWGs	20-24 January 2003,	No Host
SA1 SWGs	7-11 April 2003,	No Host
SA1 SWGs	7-11 July 2003,	No Host
SA1 SWGs	13-17 October 2003,	No Host

Annex 1: Documents provided to this Plenary

Tdoc	Title	Agenda
SP-020040	Presentation of SA1 to SA #15	7.1.1
SP-020041	Status report of SA1 to SA #15	7.1.1
SP-020042	CRs to 22.011 R99/Rel-4 on clarification of the term 'country'	7.1.3
SP-020043	CRs to 22.071 R99/Rel-4/Rel-5 on Closure of a loophole in the privacy settings	7.1.3
SP-020044	CRs to 22.078 R99/Rel-4/Rel-5 on removal of handling of e-parameters provided by the SCP	7.1.3
SP-020045	Editorial CRs to various TSs to correct terms and references	7.1.3
SP-020046	CRs to 21.905 on definitions and abbreviations	7.1.3
SP-020047	CRs to 22.071 Location Service Rel-5 on various issues	7.1.3
SP-020048	CRs to 22.078 CAMEL Rel-5 on various issues	7.1.3
SP-020049	CR to 22.101 Service principles Rel-5 on IMS access	7.1.3
SP-020050	CR to 22.101 Service principles Rel-5 on Access to IMS services using ISIM	7.1.3
SP-020051	CR to 22.101 Service principles Rel-5 on USIM support in Rel-5 GSM only terminals	7.1.3
SP-020052	CR 22.101 Service principles Rel-5 on Service change and fallback for UDI/RDI multimedia calls	7.1.3
SP-020053	CR 22.115 Rel-5 on Charging and billing	7.1.3
SP-020054	CRs to 22.127 Rel-5 on various OSA issues	7.1.3
SP-020055	CRs to 22.140 Rel-5 on various MMS issues	7.1.3
SP-020056	CRs to 22.141 Rel-5 on various Presence Service issues	7.1.3
SP-020057	CRs to 22.146 Rel-5 on various MBMS issues	7.1.3
SP-020058	CRs to 22.228 Rel-5 on various IMS issues	7.1.3
SP-020059	TR 22.934, V1.0.0 "Feasibility study on 3GPP system to Wireless Local Area Network (WLAN) interworking" Rel-6 – For information	7.1.3
SP-020060	TR 22.950, V1.0.0 "Priority Service Feasibility Study Report" Rel-6 – For information	7.1.3
SP-020061	TS 22.242, V1.0.0 "Digital Rights Management; Proposed Stage 1" Rel-6 – For information	7.1.3
SP-020062	TS 22.233, V2.0.0 "Transparent End-to-End Packet-switched Streaming Service Stage 1" Rel-5 – For Approval	7.1.3
SP-020063	CRs to 21.905 and 22.105 related to the Streaming Service Stage 1.	7.1.3

SP-020064	TR 22.944, V2.0.0 "Report on Service Requirements for UE Functionality Split" Rel-5 – For Approval	7.1.3
SP-020065	Various New WIs for Approval	7.1.3
SP-020066	Various Updated WIs for Approval	7.1.3

Annex 2: CRs provided to this Plenary

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-15	SP-020046	21.905	030		Rel-5	B	CR to 21.905: new definition of the term 'service'	5.2.0	5.3.0	S1-020393
SP-15	SP-020063	21.905	031		Rel-5	B	CR 21.905 Rel. 5 Introduction of new abbreviations derived of the approval of 3GPP TS 23.236	5.2.0	5.3.0	S1-020431
SP-15	SP-020046	21.905	032		Rel-5	B	CR 21.905 Rel.5 B Introduction of the definitions of "pre-pay" and "post-pay" billing	5.2.0	5.3.0	S1-020452
SP-15	SP-020046	21.905	033		Rel-5	F	CR to 21.905: Replacement of the term UMTS with 3GPP system	5.2.0	5.3.0	S1-020526
SP-15	SP-020046	21.905	034		Rel-5	B	CR to 21.905: missing abbreviations	5.2.0	5.3.0	S1-020527
SP-15	SP-020046	21.905	035		Rel-5	B	CR to 21.905: new definition of the term 'application'	5.2.0	5.3.0	S1-020528
SP-15	SP-020046	21.905	036		Rel-5	B	CR to 21905: definitions of online and offline charging	5.2.0	5.3.0	S1-020617
SP-15	SP-020046	21.905	037		Rel-5	B	CR to 21.905: Improved definition of the term "application"	5.2.0	5.3.0	S1-020620
SP-15	SP-020045	22.001	007	-	Rel-5	F	Editorial CR to correct terms and references	4.2.0	4.3.0	S1-020457
SP-15	SP-020045	22.003	009	-	Rel-4	F	Editorial CR to correct terms and references	4.2.0	4.3.0	S1-020457
SP-15	SP-020045	22.003	010	-	Rel-5	A	Editorial CR to correct terms and references	5.0.0	5.1.0	S1-020457
SP-15	SP-020045	22.004	005	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-010042	22.011	044		R99	F	CR to 22.011 R99: clarification of the term 'country'	3.6.0	3.7.0	S1-020662
SP-15	SP-010042	22.011	045		Rel-4	A	CR to 22.011 Rel-4: clarification of the term 'country'	4.5.0	4.6.0	S1-020663
SP-15	SP-020045	22.016	006	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.030	010	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.042	003	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.057	008	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.057	009	-	Rel-5	A	Editorial CR to correct terms and references	5.2.0	5.3.0	S1-020457
SP-15	SP-020045	22.060	022		Rel-5	F	CRs 22.060 rel 5 on change of references	5.0.0	5.1.0	S1-020463
SP-15	SP-020045	22.067	003	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457

SP-15	SP-020047	22.071	030		Rel-5	B	CR 22.071 Rel.5 B Requestor	5.0.0	5.1.0	S1-020467
SP-15	SP-020047	22.071	031		Rel-5	B	CR 22.071 Rel.5 B Introducing service type privacy for location services	5.0.0	5.1.0	S1-020478
SP-15	SP-020047	22.071	032		Rel-5	C	Introduction of a Codeword Setting	5.0.0	5.1.0	S1-020479
SP-15	SP-020047	22.071	033		Rel-5	B	CR to 22.071 on Clarifying checking of requester ID	5.0.0	5.1.0	S1-020632
SP-15	SP-020043	22.071	034		R99	F	CR 22.071 Rel.99 F Closure of a loophole in the privacy settings	3.3.0	3.4.0	S1-020453
SP-15	SP-020043	22.071	035		Rel-4	A	CR 22.071 Rel-4 A Closure of a loophole in the privacy settings	4.3.0	4.4.0	S1-020454
SP-15	SP-020043	22.071	036		Rel-5	A	CR 22.071 Rel-5 A Closure of a loophole in the privacy settings	5.0.0	5.1.0	S1-020455
SP-15	SP-020047	22.071	037		Rel-5	B	CR 22.071 Rel.5 B Deferred Location Request with Change of Area Event	5.0.0	5.1.0	S1-020466
SP-15	SP-020045	22.071	038	-	Rel-4	F	Editorial CR to correct terms and references	4.3.0	4.4.0	S1-020457
SP-15	SP-020045	22.071	039	-	Rel-5	A	Editorial CR to correct terms and references	5.0.0	5.1.0	S1-020457
SP-15	SP-020048	22.078	134	1	Rel-5	B	Removal of CAMEL4 Dialed Services enhancements	5.5.0	5.6.0	S1-020625
SP-15	SP-020048	22.078	135		Rel-5	C	Liaison Statement on Mobility Management event reporting in the PS domain	5.5.0	5.6.0	S1-020008
SP-15	SP-020044	22.078	136		R99	F	CR to 22.078 on removal of handling of e-parameters provided by the SCP	3.8.0	3.9.0	S1-020627
SP-15	SP-020044	22.078	137		Rel-4	A	CR to 22.078 on removal of handling of e-parameters provided by the SCP	4.4.0	4.5.0	S1-020628
SP-15	SP-020044	22.078	138		Rel-5	A	CR to 22.078 on removal of handling of e-parameters provided by the SCP	5.5.0	5.6.0	S1-020629
SP-15	SP-020048	22.078	139		Rel-5	C	CR 22.078 Rel.5 Transferring the MS classmark & IMEI to the CSE (update of 301)	5.5.0	5.6.0	S1-020418
SP-15	SP-020048	22.078	140		Rel-5	C	Clarification on Releasing Individual Call Parties	5.5.0	5.6.0	S1-020358
SP-15	SP-020048	22.078	141		Rel-5	B	Introduction of functional subsets for CAMEL Phase 4	5.5.0	5.6.0	S1-020317
SP-15	SP-020045	22.078	142	-	Rel-4	F	Editorial CR to correct terms and references	4.4.0	4.5.0	S1-020457
SP-15	SP-020045	22.078	143	-	Rel-5	A	Editorial CR to correct terms and references	5.5.0	5.6.0	S1-020457
SP-15	SP-020045	22.081	004	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.082	004	-	Rel-4	F	Editorial CR to correct terms and references	4.2.0	4.3.0	S1-020457
SP-15	SP-020045	22.083	003	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.084	002	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457

SP-15	SP-020045	22.085	003	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.088	002	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.094	002	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020045	22.097	004	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020052	22.101	087		Rel-5	B	CR 22.101 Rel.5 B Service change and fallback for UDI/RDI multimedia calls	5.4.0	5.5.0	S1-020609
SP-15	SP-020049	22.101	088		Rel-5	C	CR to 22.101 on IMS access	5.4.0	5.5.0	S1-020510
SP-15	SP-020051	22.101	089		Rel-5	C	CR to 22.101 on on USIM support in Rel-5 GSM only terminals	5.4.0	5.5.0	S1-020613
SP-15	SP-020050	22.101	090		Rel-5	C	CR to 22.101 on Access to IMS services using ISIM	5.4.0	5.5.0	S1-020658
SP-15	SP-020045	22.101	091	-	Rel-4	F	Editorial CR to correct terms and references	4.5.0	4.6.0	S1-020457
SP-15	SP-020045	22.101	092	-	Rel-5	A	Editorial CR to correct terms and references	5.4.0	5.5.0	S1-020457
SP-15	SP-020063	22.105	033		Rel-5	F	End-user performance expectations- Streaming Services	5.0.0	5.1.0	S1-020635
SP-15	SP-020045	22.105	034	-	Rel-4	F	Editorial CR to correct terms and references	4.2.0	4.3.0	S1-020457
SP-15	SP-020045	22.105	035	-	Rel-4	A	Editorial CR to correct terms and references	5.0.0	5.1.0	S1-020357
SP-15	SP-020053	22.115	007		Rel-5	B	CR 22.115 Charging and billing	5.1.0	5.2.0	S1-020643
SP-15	SP-020045	22.121	023	-	Rel-4	F	Editorial CR to correct terms and references	5.2.0	5.3.0	S1-020457
SP-15	SP-020054	22.127	034		Rel-5	D	Editorial Corrections	5.2.0	5.3.0	S1-020267
SP-15	SP-020054	22.127	035		Rel-5	B	OSA use cases	5.2.0	5.3.0	S1-020268
SP-15	SP-020054	22.127	036		Rel-5	C	CR on Network Capability Retrieval	5.2.0	5.3.0	S1-020269
SP-15	SP-020054	22.127	037		Rel-5	F	Clarification of OSA functions related to user's status	5.2.0	5.3.0	S1-020270
SP-15	SP-020054	22.127	038		Rel-5	F	CR to 22.127 R5 on Correction of Service Capability Feature to SC Server	5.2.0	5.3.0	S1-020271
SP-15	SP-020054	22.127	039		Rel-5	C	CR on Charging Requirements	5.2.0	5.3.0	S1-020283
SP-15	SP-020054	22.127	040		Rel-5	F	Security requirements on User Profile Management	5.2.0	5.3.0	S1-020338
SP-15	SP-020054	22.127	041		Rel-5	C	CR to 22.127 R5 on Charging Requirements	5.2.0	5.3.0	S1-020591
SP-15	SP-020045	22.127	042	-	Rel-4	F	Editorial CR to correct terms and references	4.3.0	4.4.0	S1-020357
SP-15	SP-020045	22.127	043	-	Rel-4	A	Editorial CR to correct terms and references	5.2.0	5.3.0	S1-020457

SP-15	SP-020045	22.135	009	-	Rel-4	F	Editorial CR to correct terms and references	4.0.0	4.1.0	S1-020457
SP-15	SP-020055	22.140	010		Rel-5	B	CR 22.140 Rel. 5 B Support of "Recipient Party pays" charging model in MMS	5.0.0	5.1.0	S1-020517
SP-15	SP-020055	22.140	011		Rel-5	B	CR to 22.140 on addressing	5.0.0	5.1.0	S1-020209
SP-15	SP-020045	22.140	011	-	Rel-4	F	Editorial CR to correct terms and references	4.1.0	4.2.0	S1-020457
SP-15	SP-020045	22.140	012		Rel-5	D	Editorial CR 22.140 Rel.5 D - Update of references and general requirements	5.0.0	5.1.0	S1-020468
SP-15	SP-020045	22.140	012	-	Rel-4	A	Editorial CR to correct terms and references	5.0.0	5.1.0	S1-020457
SP-15	SP-020055	22.140	013		Rel-5	B	CR 22.140 Rel. 5 MMS Configuration	5.0.0	5.1.0	S1-020622
SP-15	SP-020056	22.141	009		Rel-5	D	A brief introduction to the Presence Service	5.1.0	5.2.0	S1-020306
SP-15	SP-020056	22.141	010		Rel-5	D	Correction to the number of roles in the Presence Service	5.1.0	5.2.0	S1-020307
SP-15	SP-020056	22.141	011		Rel-5	C	CR 22.141 Rel.5 Selective Notifications	5.1.0	5.2.0	S1-020430
SP-15	SP-020056	22.141	012		Rel-5	F	CR to 22.141 - Clarifications on identifier's hiding	5.1.0	5.2.0	S1-020602
SP-15	SP-020056	22.141	013		Rel-5	C	CR to 22.141 on Multiple terminal support in presence service	5.1.0	5.2.0	S1-020619
SP-15	SP-020056	22.141	014		Rel-5	C	Access from external applications	5.1.0	5.2.0	S1-020623
SP-15	SP-020057	22.146	024		Rel-5	F	CR 22.146 Rel. 5 F Area Specific QoS for Broadcast and Multicast Services	5.1.0	5.2.0	S1-020125
SP-15	SP-020057	22.146	025		Rel-5	F	CR 22.146 Rel. 5 F Clause 4.2 Multicast mode	5.1.0	5.2.0	S1-020128
SP-15	SP-020057	22.146	026		Rel-5	F	CR 22.146 Rel. 5 F Addition of MBMS multicast mode and broadcast mode definitions	5.1.0	5.2.0	S1-020133
SP-15	SP-020057	22.146	027		Rel-5	B	Proposed CR on MBMS Broadcast and Multicast Sessions	5.1.0	5.2.0	S1-020563
SP-15	SP-020057	22.146	028		Rel-5	B	Power consumption minimisation for MBMS	5.1.0	5.2.0	S1-020565
SP-15	SP-020057	22.146	029		Rel-5	F	CR to 22.146 (MBMS stage 1) 'Editorial Change'	5.1.0	5.2.0	S1-020646
SP-15	SP-020045	22.146	030	-	Rel-4	F	Editorial CR to correct terms and references	5.1.0	5.2.0	S1-020457
SP-15	SP-020045	22.226	002	-	Rel-4	F	Editorial CR to correct terms and references	5.1.0	5.2.0	S1-020457
SP-15	SP-020058	22.228	010		Rel-5	B	CR 22.228 Rel. 5, IMS Addressing	5.4.0	5.5.0	S1-020507
SP-15	SP-020058	22.228	011		Rel-5	B	CR to 22.228 on ISIM	5.4.0	5.5.0	S1-020657
SP-15	SP-020045	22.228	012	-	Rel-4	F	Editorial CR to correct terms and references	5.4.0	5.5.0	S1-020457

Annex 3: 3G&GSM TSs and TRs under SA1 responsibility

Type	Number	Title	Release	current version
TS	01.02	General Description of a GSM Public Land Mobile Network (PLMN)	Ph2	4.0.2
TS	01.02	General Description of a GSM Public Land Mobile Network (PLMN)	R96	5.0.0
TS	01.02	General Description of a GSM Public Land Mobile Network (PLMN)	R97	6.0.1
TS	01.48	ISDN-based DECT/GSM interworking; Feasibility study	R96	5.0.1
TS	01.48	ISDN-based DECT/GSM interworking; Feasibility study	R97	6.0.1
TS	01.56	GSM Cordless Telephony System (CTS) (Phase 1); CTS Authentication and Key Generation Algorithms Requirements	R98	7.0.0
TR	01.60	GPRS requirements	R97	6.0.0
TS	02.01	Principles of telecommunication services supported by a GSM Public Land Mobile Network(PLMN)	Ph1	3.2.0
TS	02.01	Principles of telecommunication services supported by a GSM Public Land Mobile Network(PLMN)	Ph2	4.6.0
TS	02.01	Principles of telecommunication services supported by a GSM Public Land Mobile Network(PLMN)	R96	5.5.0
TS	02.01	Principles of telecommunication services supported by a GSM Public Land Mobile Network(PLMN)	R97	6.2.0
TS	02.01	Principles of telecommunication services supported by a GSM Public Land Mobile Network(PLMN)	R98	7.1.0
TS	02.02	Bearer Services (BS) Supported by a GSM Public Land Mobile Network (PLMN)	Ph1	3.2.0
TS	02.02	Bearer Services (BS) Supported by a GSM Public Land Mobile Network (PLMN)	Ph2	4.2.2
TS	02.02	Bearer Services (BS) Supported by a GSM Public Land Mobile Network (PLMN)	R96	5.3.2
TS	02.02	Bearer Services (BS) Supported by a GSM Public Land Mobile Network (PLMN)	R97	6.1.1
TS	02.02	Bearer Services (BS) Supported by a GSM Public Land Mobile Network (PLMN)	R98	7.0.2
TS	02.03	Teleservices Supported by a GSM Public Land Mobile Network (PLMN)	Ph1	3.4.1
TS	02.03	Teleservices Supported by a GSM Public Land Mobile Network (PLMN)	Ph2	4.3.1
TS	02.03	Teleservices Supported by a GSM Public Land Mobile Network (PLMN)	R96	5.3.2
TS	02.03	Teleservices Supported by a GSM Public Land Mobile Network (PLMN)	R97	6.0.0
TS	02.03	Teleservices Supported by a GSM Public Land Mobile Network (PLMN)	R98	7.0.0
TS	02.04	General on Supplementary Services	Ph1	3.7.1
TS	02.04	General on Supplementary Services	Ph2	4.9.1
TS	02.04	General on Supplementary Services	R96	5.7.4
TS	02.04	General on Supplementary Services	R97	6.1.1

TS	02.04	General on Supplementary Services	R98	7.1.2
TS	02.06	Types of Mobile Stations (MS)	Ph1	3.2.0
TS	02.06	Types of Mobile Stations (MS)	Ph1-DCS	3.2.0
TS	02.06	Types of Mobile Stations (MS)	Ph2	4.5.2
TS	02.06	Types of Mobile Stations (MS)	R96	5.2.1
TS	02.06	Types of Mobile Stations (MS)	R97	6.1.1
TS	02.06	Types of Mobile Stations (MS)	R98	7.0.1
TS	02.07	Mobile Station (MS) Features	Ph1	3.4.1
TS	02.07	Mobile Station (MS) Features	Ph2	4.8.2
TS	02.07	Mobile Station (MS) Features	R96	5.4.1
TS	02.07	Mobile Station (MS) Features	R97	6.2.0
TS	02.07	Mobile Station (MS) Features	R98	7.1.0
TS	02.11	Service Accessibility	Ph1	3.7.0
TS	02.11	Service Accessibility	Ph1-DCS	3.1.0
TS	02.11	Service Accessibility	Ph2	4.9.0
TS	02.11	Service Accessibility	R96	5.0.1
TS	02.11	Service Accessibility	R97	6.1.0
TS	02.11	Service Accessibility	R98	7.1.0
TS	02.16	International Mobile Station Equipment Identities (IMEI)	Ph1	3.0.1
TS	02.16	International Mobile Station Equipment Identities (IMEI)	Ph2	4.7.1
TS	02.16	International Mobile Station Equipment Identities (IMEI)	R96	5.2.0
TS	02.16	International Mobile Station Equipment Identities (IMEI)	R97	6.2.0
TS	02.16	International Mobile Station Equipment Identities (IMEI)	R98	7.2.0
TS	02.20	Collection charges	Ph1	3.0.1
TS	02.22	Stage 1 for personalisation of GSM ME	R96	5.4.0
TS	02.22	Stage 1 for personalisation of GSM ME	R97	6.0.0
TS	02.22	Stage 1 for personalisation of GSM ME	R98	7.0.0
TS	02.24	Description of Charge Advice Information (CAI)	Ph2	4.5.0
TS	02.24	Description of Charge Advice Information (CAI)	R96	5.0.1
TS	02.24	Description of Charge Advice Information (CAI)	R97	6.0.1
TS	02.24	Description of Charge Advice Information (CAI)	R98	7.0.1
TS	02.30	Man-machine Interface (MMI) of the Mobile Station (MS)	Ph1	3.9.0
TS	02.30	Man-machine Interface (MMI) of the Mobile Station (MS)	Ph2	4.13.0

TS	02.30	Man-machine Interface (MMI) of the Mobile Station (MS)	R96	5.7.1
TS	02.30	Man-machine Interface (MMI) of the Mobile Station (MS)	R97	6.1.0
TS	02.30	Man-machine Interface (MMI) of the Mobile Station (MS)	R98	7.1.0
TS	02.34	High Speed Circuit Switched Data (HSCSD); Stage 1	R96	5.2.1
TS	02.34	High Speed Circuit Switched Data (HSCSD); Stage 1	R97	6.0.0
TS	02.34	High Speed Circuit Switched Data (HSCSD); Stage 1	R98	7.0.0
TS	02.40	Procedures for Call Progress Indications	Ph1	3.2.0
TS	02.40	Procedures for Call Progress Indications	Ph2	4.5.0
TS	02.40	Procedures for Call Progress Indications	R96	5.0.0
TS	02.40	Procedures for Call Progress Indications	R97	6.0.0
TS	02.40	Procedures for Call Progress Indications	R98	7.0.1
TS	02.41	Operator Determined Barring	Ph2	4.5.2
TS	02.41	Operator Determined Barring	R96	5.1.1
TS	02.41	Operator Determined Barring	R97	6.0.0
TS	02.41	Operator Determined Barring	R98	7.0.0
TS	02.42	Network Identity and Timezone (NITZ); Service Description, Stage 1	R96	5.1.0
TS	02.42	Network Identity and Timezone (NITZ); Service Description, Stage 1	R97	6.0.0
TS	02.42	Network Identity and Timezone (NITZ); Service Description, Stage 1	R98	7.0.0
TS	02.43	Support of Localised Service Area (SoLSA); Service description; Stage 1	R98	7.3.0
TS	02.43	Support of Localised Service Area (SoLSA); Service description; Stage 1	R99	8.0.0
TS	02.56	GSM Cordless Telephony System (CTS), Phase 1; Service description; Stage 1	R98	7.2.1
TS	02.56	GSM Cordless Telephony System (CTS), Phase 1; Service description; Stage 1	R99	8.0.1
TS	02.57	Mobile Station Application Execution Environment (MExE) Service description Stage 1	R98	7.1.0
TS	02.60	General Packet Radio Service Stage 1 Description	R97	6.3.1
TS	02.60	General Packet Radio Service Stage 1 Description	R98	7.5.0
TS	02.63	Packet Data on Signalling channels Service (PDS); Stage 1	R96	5.0.0
TS	02.63	Packet Data on Signalling channels Service (PDS); Stage 1	R97	6.0.0
TS	02.63	Packet Data on Signalling channels Service (PDS); Stage 1	R98	7.0.0
TS	02.66	Support of Mobile Number Portability (MNP); Service description; Stage 1	R98	7.1.0
TS	02.67	Enhanced Multi-Level Precedence and Pre-emption Service (eMLPP); Stage 1	R96	5.1.1

TS	02.67	Enhanced Multi-Level Precedence and Pre-emption Service (eMLPP); Stage 1	R97	6.1.1
TS	02.67	Enhanced Multi-Level Precedence and Pre-emption Service (eMLPP); Stage 1	R98	7.0.1
TS	02.68	Voice Group Call Service (VGCS); Stage 1	R96	5.2.1
TS	02.68	Voice Group Call Service (VGCS); Stage 1	R97	6.0.1
TS	02.68	Voice Group Call Service (VGCS); Stage 1	R98	7.0.2
TS	02.68	Voice Group Call Service (VGCS); Stage 1	R99	8.1.0
TS	02.69	Voice Broadcast Service (VBS); Stage 1	R96	5.2.1
TS	02.69	Voice Broadcast Service (VBS); Stage 1	R97	6.0.1
TS	02.69	Voice Broadcast Service (VBS); Stage 1	R98	7.0.2
TS	02.69	Voice Broadcast Service (VBS); Stage 1	R99	8.1.0
TS	02.71	Location Services (LCS); Stage 1	R98	7.3.0
TS	02.72	Call Deflection Service description, Stage 1	R98	7.2.1
TS	02.78	Customized Applications for Mobile network Enhanced Logic (CAMEL); Service definition (Stage 1)	R96	5.6.0
TS	02.78	Customized Applications for Mobile network Enhanced Logic (CAMEL); Service definition (Stage 1)	R97	6.6.1
TS	02.78	Customized Applications for Mobile network Enhanced Logic (CAMEL); Service definition (Stage 1)	R98	7.2.0
TS	02.79	Support of Optimal Routeing (SOR); Service definition (Stage 1)	R96	5.2.0
TS	02.79	Support of Optimal Routeing (SOR); Service definition (Stage 1)	R97	6.0.0
TS	02.79	Support of Optimal Routeing (SOR); Service definition (Stage 1)	R98	7.0.0
TS	02.81	Line Identification Supplementary Services; Stage 1	Ph2	4.6.1
TS	02.81	Line Identification Supplementary Services; Stage 1	R96	5.1.0
TS	02.81	Line Identification Supplementary Services; Stage 1	R97	6.0.0
TS	02.81	Line Identification Supplementary Services; Stage 1	R98	7.0.0
TS	02.82	Call Forwarding (CF) Supplementary Services; Stage 1	Ph1	3.6.1
TS	02.82	Call Forwarding (CF) Supplementary Services; Stage 1	Ph2	4.5.2
TS	02.82	Call Forwarding (CF) Supplementary Services; Stage 1	R96	5.0.0
TS	02.82	Call Forwarding (CF) Supplementary Services; Stage 1	R97	6.0.0
TS	02.82	Call Forwarding (CF) Supplementary Services; Stage 1	R98	7.0.1
TS	02.83	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1	Ph2	4.6.7
TS	02.83	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1	R96	5.0.0
TS	02.83	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1	R97	6.0.0

TS	02.83	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1	R98	7.0.0
TS	02.84	MultiParty (MPTY) Supplementary Services; Stage 1	Ph2	4.4.7
TS	02.84	MultiParty (MPTY) Supplementary Services; Stage 1	R96	5.0.0
TS	02.84	MultiParty (MPTY) Supplementary Services; Stage 1	R97	6.0.0
TS	02.84	MultiParty (MPTY) Supplementary Services; Stage 1	R98	7.0.0
TS	02.85	Closed User Group (CUG) Supplementary Services; Stage 1	Ph2	4.2.6
TS	02.85	Closed User Group (CUG) Supplementary Services; Stage 1	R96	5.0.0
TS	02.85	Closed User Group (CUG) Supplementary Services; Stage 1	R97	6.0.0
TS	02.85	Closed User Group (CUG) Supplementary Services; Stage 1	R98	7.0.0
TS	02.86	Advice of Charge (AoC) Supplementary Services; Stage 1	Ph2	4.1.5
TS	02.86	Advice of Charge (AoC) Supplementary Services; Stage 1	R96	5.0.0
TS	02.86	Advice of Charge (AoC) Supplementary Services; Stage 1	R97	6.0.0
TS	02.86	Advice of Charge (AoC) Supplementary Services; Stage 1	R98	7.0.0
TS	02.87	User-to-User Signalling (UUS) Service Description; Stage 1	R98	7.1.2
TS	02.88	Call Barring (CB) Supplementary Services; Stage 1	Ph1	3.6.1
TS	02.88	Call Barring (CB) Supplementary Services; Stage 1	Ph2	4.4.3
TS	02.88	Call Barring (CB) Supplementary Services; Stage 1	R96	5.0.0
TS	02.88	Call Barring (CB) Supplementary Services; Stage 1	R97	6.0.0
TS	02.88	Call Barring (CB) Supplementary Services; Stage 1	R98	7.0.0
TS	02.90	Stage 1 Decision of Unstructured Supplementary Service Data (USSD)	Ph2	4.1.1
TS	02.90	Stage 1 Decision of Unstructured Supplementary Service Data (USSD)	R96	5.1.0
TS	02.90	Stage 1 Decision of Unstructured Supplementary Service Data (USSD)	R97	6.0.0
TS	02.90	Stage 1 Decision of Unstructured Supplementary Service Data (USSD)	R98	7.0.0
TS	02.91	Explicit Call Transfer (ECT)	R96	5.1.1
TS	02.91	Explicit Call Transfer (ECT)	R97	6.0.0
TS	02.91	Explicit Call Transfer (ECT)	R98	7.0.0
TS	02.93	Completion of Calls to Busy Subscriber (CCBS) Service Description; Stage 1	R97	6.0.1
TS	02.93	Completion of Calls to Busy Subscriber (CCBS) Service Description; Stage 1	R98	7.0.0
TS	02.94	Follow Me Service description; Stage 1	R99	8.0.0
TS	02.95	Support of Private Numbering Plan (SPNP); Service description; Stage 1	R96	5.2.0
TS	02.95	Support of Private Numbering Plan (SPNP); Service description; Stage 1	R97	6.0.0

TS	02.95	Support of Private Numbering Plan (SPNP); Service description; Stage 1	R98	7.0.0
TS	02.95	Support of Private Numbering Plan (SPNP); Service description; Stage 1	R99	8.0.0
TS	02.96	Name Identification Supplementary Services; Stage 1	R97	6.0.1
TS	02.96	Name Identification Supplementary Services; Stage 1	R98	7.0.0
TS	02.97	Multiple Subscriber Profile (MSP) Service description, Stage 1	R98	7.1.0
TR	21.905	Vocabulary for 3GPP Specifications	R99	3.3.0
TR	21.905	Vocabulary for 3GPP Specifications	Rel-4	4.4.0
TR	21.905	Vocabulary for 3GPP Specifications	Rel-5	5.2.0
TS	22.001	Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN)	R99	3.2.0
TS	22.001	Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN)	Rel-4	4.2.0
TS	22.002	Circuit Bearer Services (BS) supported by a Public Land Mobile Network (PLMN)	R99	3.6.0
TS	22.002	Circuit Bearer Services (BS) supported by a Public Land Mobile Network (PLMN)	Rel-4	4.2.0
TS	22.003	Circuit Teleservices supported by a Public Land Mobile Network (PLMN)	R99	3.3.0
TS	22.003	Circuit Teleservices supported by a Public Land Mobile Network (PLMN)	Rel-4	4.2.0
TS	22.003	Circuit Teleservices supported by a Public Land Mobile Network (PLMN)	Rel-5	5.0.0
TS	22.004	General on Supplementary Services	R99	3.2.1
TS	22.004	General on Supplementary Services	Rel-4	4.0.0
TS	22.011	Service accessibility	R99	3.6.0
TS	22.011	Service accessibility	Rel-4	4.5.0
TS	22.016	International Mobile Equipment Identities (IMEI)	R99	3.2.0
TS	22.016	International Mobile Equipment Identities (IMEI)	Rel-4	4.0.0
TS	22.024	Description of Charge Advice Information (CAI)	R99	3.0.1
TS	22.024	Description of Charge Advice Information (CAI)	Rel-4	4.0.0
TS	22.030	Man-Machine Interface (MMI) of the User Equipment (UE)	R99	3.4.0
TS	22.030	Man-Machine Interface (MMI) of the User Equipment (UE)	Rel-4	4.0.0
TS	22.034	High Speed Circuit Switched Data (HSCSD); Stage 1	R99	3.2.1
TS	22.034	High Speed Circuit Switched Data (HSCSD); Stage 1	Rel-4	4.0.0
TS	22.038	USIM/SIM Application Toolkit (USAT/SAT); Service description; Stage 1	R99	3.2.0
TS	22.038	USIM/SIM Application Toolkit (USAT/SAT); Service description; Stage 1	Rel-4	4.1.0

TS	22.038	USIM/SIM Application Toolkit (USAT/SAT); Service description; Stage 1	Rel-5	5.2.0
TS	22.041	Operator Determined Call Barring	R99	3.3.1
TS	22.041	Operator Determined Call Barring	Rel-4	4.1.0
TS	22.042	Network Identity and Time Zone (NITZ), stage 1	R99	3.0.1
TS	22.042	Network Identity and Time Zone (NITZ), stage 1	Rel-4	4.0.0
TS	22.057	Mobile Execution Environment (MExE); Stage 1	R99	3.0.1
TS	22.057	Mobile Execution Environment (MExE); Stage 1	Rel-4	4.0.0
TS	22.057	Mobile Execution Environment (MExE); Stage 1	Rel-5	5.2.0
TS	22.060	General Packet Radio Service (GPRS); Service description; Stage 1	R99	3.5.0
TS	22.060	General Packet Radio Service (GPRS); Service description; Stage 1	Rel-4	4.2.0
TS	22.060	General Packet Radio Service (GPRS); Service description; Stage 1	Rel-5	5.0.0
TS	22.066	Support of Mobile Number Portability (MNP); Stage 1	R99	3.2.0
TS	22.066	Support of Mobile Number Portability (MNP); Stage 1	Rel-4	4.0.0
TS	22.067	enhanced Multi-Level Precedence and Pre-emption service (eMLPP); Stage 1	R99	3.0.1
TS	22.067	enhanced Multi-Level Precedence and Pre-emption service (eMLPP); Stage 1	Rel-4	4.0.0
TS	22.071	Location Services (LCS); Stage 1	R99	3.3.0
TS	22.071	Location Services (LCS); Stage 1	Rel-4	4.3.0
TS	22.071	Location Services (LCS); Stage 1	Rel-5	5.0.0
TS	22.072	Call Deflection (CD); Stage 1	R99	3.0.1
TS	22.072	Call Deflection (CD); Stage 1	Rel-4	4.0.0
TS	22.078	Customized Applications for Mobile network Enhanced Logic (CAMEL); Service description; Stage 1	R99	3.8.0
TS	22.078	Customized Applications for Mobile network Enhanced Logic (CAMEL); Service description; Stage 1	Rel-4	4.4.0
TS	22.078	Customized Applications for Mobile network Enhanced Logic (CAMEL); Service description; Stage 1	Rel-5	5.5.0
TS	22.079	Support of optimal routeing; Stage 1	R99	3.0.1
TS	22.079	Support of optimal routeing; Stage 1	Rel-4	4.0.0
TS	22.081	Line Identification supplementary services; Stage 1	R99	3.2.0
TS	22.081	Line Identification supplementary services; Stage 1	Rel-4	4.0.0
TS	22.082	Call Forwarding (CF) Supplementary Services; Stage 1	R99	3.0.1
TS	22.082	Call Forwarding (CF) Supplementary Services; Stage 1	Rel-4	4.1.0
TS	22.083	Call Waiting (CW) and Call Hold (HOLD) supplementary services; Stage 1	R99	3.0.1

TS	22.083	Call Waiting (CW) and Call Hold (HOLD) supplementary services; Stage 1	Rel-4	4.0.0
TS	22.084	MultiParty (MPTY) supplementary service; Stage 1	R99	3.0.1
TS	22.084	MultiParty (MPTY) supplementary service; Stage 1	Rel-4	4.0.0
TS	22.085	Closed User Group (CUG) supplementary services; Stage 1	R99	3.1.0
TS	22.085	Closed User Group (CUG) supplementary services; Stage 1	Rel-4	4.0.0
TS	22.086	Advice of Charge (AoC) supplementary services; Stage 1	R99	3.1.0
TS	22.086	Advice of Charge (AoC) supplementary services; Stage 1	Rel-4	4.0.0
TS	22.087	User-to-user signalling (UUS); Stage 1	R99	3.1.0
TS	22.087	User-to-user signalling (UUS); Stage 1	Rel-4	4.0.0
TS	22.088	Call Barring (CB) supplementary services; Stage 1	R99	3.0.2
TS	22.088	Call Barring (CB) supplementary services; Stage 1	Rel-4	4.0.0
TS	22.090	Unstructured Supplementary Service Data (USSD); Stage 1	R99	3.1.0
TS	22.090	Unstructured Supplementary Service Data (USSD); Stage 1	Rel-4	4.0.0
TS	22.091	Explicit Call Transfer (ECT) supplementary service; Stage 1	R99	3.1.0
TS	22.091	Explicit Call Transfer (ECT) supplementary service; Stage 1	Rel-4	4.0.0
TS	22.093	Completion of Calls to Busy Subscriber (CCBS); Service description, Stage 1	R99	3.0.1
TS	22.093	Completion of Calls to Busy Subscriber (CCBS); Service description, Stage 1	Rel-4	4.0.0
TS	22.094	Follow Me service description - Stage 1	R99	3.1.0
TS	22.094	Follow Me service description - Stage 1	Rel-4	4.0.0
TS	22.096	Name identification supplementary services; Stage 1	R99	3.0.1
TS	22.096	Name identification supplementary services; Stage 1	Rel-4	4.0.0
TS	22.097	Multiple Subscriber Profile (MSP) Phase 1; Service description - Stage 1	R99	3.2.0
TS	22.097	Multiple Subscriber Profile (MSP) Phase 1; Service description - Stage 1	Rel-4	4.0.0
TS	22.100	UMTS Phase 1	R99	3.7.0
TS	22.101	Service aspects; Service principles	R99	3.13.0
TS	22.101	Service aspects; Service principles	Rel-4	4.5.0
TS	22.101	Service aspects; Service principles	Rel-5	5.4.0
TS	22.105	Services & service capabilities	R99	3.10.0
TS	22.105	Services & service capabilities	Rel-4	4.2.0
TS	22.105	Services & service capabilities	Rel-5	5.0.0
TS	22.115	Service Aspects Charging and billing	R99	3.3.0

TS	22.115	Service Aspects Charging and billing	Rel-4	4.0.0
TS	22.115	Service Aspects Charging and billing	Rel-5	5.1.0
TS	22.121	Service aspects; The Virtual Home Environment; Stage 1	R99	3.3.0
TS	22.121	Service aspects; The Virtual Home Environment; Stage 1	Rel-4	4.1.0
TS	22.121	Service aspects; The Virtual Home Environment; Stage 1	Rel-5	5.2.0
TS	22.127	Service Requirement for the Open Services Access (OSA); Stage 1	Rel-4	4.3.0
TS	22.127	Service Requirement for the Open Services Access (OSA); Stage 1	Rel-5	5.2.0
TS	22.129	Handover requirements between UTRAN and GERAN or other radio systems	R99	3.6.0
TS	22.129	Handover requirements between UTRAN and GERAN or other radio systems	Rel-4	4.4.0
TS	22.129	Handover requirements between UTRAN and GERAN or other radio systems	Rel-5	5.1.0
TS	22.135	Multicall; Service description; Stage 1	R99	3.4.0
TS	22.135	Multicall; Service description; Stage 1	Rel-4	4.0.0
TS	22.140	Service aspects; Stage 1; Multimedia Messaging Service	R99	3.1.0
TS	22.140	Service aspects; Stage 1; Multimedia Messaging Service	Rel-4	4.1.0
TS	22.140	Service aspects; Stage 1; Multimedia Messaging Service	Rel-5	5.0.0
TS	22.141	Presence service; Stage 1	Rel-5	5.1.0
TS	22.146	Multimedia Broadcast/Multicast Service (MBMS); Stage 1	Rel-5	5.1.0
TS	22.174	Push service; stage 1	Rel-5	none
TS	22.226	Global text telephony; Stage 1: Service description	Rel-5	5.1.0
TS	22.228	IP multimedia subsystem; Stage 1	Rel-5	5.4.0
TS	22.233	Transparent end-to-end packet-switched streamng service; Service aspects; Stage 1	Rel-5	1.0.0
TS	22.240	3GPP generic user profile requirements; Stage 1	Rel-5	none
TS	22.242	Digital Rights Management (DRM); Stage 1	Rel-6	none
TS	22.243	Distributed speech recognition based automated voice services	Rel-5	1.0.0
TR	22.928	IP-based multimedia services examples	Rel-5	none
TS	22.934	Feasibility study on 3GPP system to Wireles Local Area Network (WLAN) interworking	Rel-6	none
TR	22.941	IP based multimedia framework; Stage 0	Rel-5	0.7.0
TR	22.944	Service requirements for UE functionality split	Rel-5	1.0.0
TR	22.950	Priority service feasibility study	Rel-6	none
TR	22.971	Automatic establishment of roaming relationships	R99	3.1.1
TR	22.975	Advanced addressing	R99	3.1.0

TR	22.976	Study on PS domain services and capabilities	Rel-5	2.0.0
TS	42.043	Support of Localised Service Area (SoLSA); Service description; Stage 1	Rel-4	4.0.0
TS	42.056	GSM Cordless Telephony System (CTS), Phase 1; Service description; Stage 1	Rel-4	4.0.0
TS	42.068	Voice Group Call Service (VGCS); Stage 1	Rel-4	4.1.0
TS	42.069	Voice Broadcast Service (VBS); Stage 1	Rel-4	4.1.0