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Document for: **Information and Decision**

Agenda Item: **7.1.1**

TSG SA1 STATUS REPORT

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1 General Overview of Progress

The TSG_SA_WG1#25 Plenary Meeting was held in Montreal, Canada from the 28 June - 02 July 2004. It was chaired by Mr Michele Zarri (T-Mobile) and the secretary was Mr Michael Clayton from the MCC. The host was North American Friends of 3GPP.

2 External Liaisons

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

Document Number	Title	To	Copy	Sent
S1-040627	LS on removal of A5/2 from handsets	SA3	GSMA SG, DIG, T2, GERAN2	05/07/2004
S1-040645	Proposed Answer to SA3 on 'LS on VGCS and VBS security'	SA3	ETSI EP RT	05/07/2004
S1-040691	GPRS network Selection	IREG, SRG		05/07/2004
S1-040709	Reply to SA2 on Request for Guidance on E112 Accuracy	SA2, TISPAN	SA, GSMA	05/07/2004

3 Change Requests for R99

There are no CRs for R99.

4 Change Requests for Rel-4

There are no CRs for Rel-4.

5 Change Requests for Rel-5

There are no CRs for Rel-5.

6 Change Requests for Rel-6

The following sections contain CRs to release 6.

6.1 Location Retrieval for MT call handling (22.078 Rel-6)

At the last meeting of SA1, a CR to 22.078 on Current Location Retrieval for MT call handling in CAMEL was proposed. The current text does not clearly specify that the HLR may obtain the subscriberís location information during Mobile Terminating (MT) call handling. This information is forwarded to the CSE for CAMEL handling of the MT call.

This mechanism whereby the HLR obtains the called subscriberís location during MT call handling exists as from CAMEL Phase 1 (GSM R96) onwards and is an HPLMN operatorís option.

In addition, the CSE may at any time obtain the subscriberís location, by interrogating the HLR (also existing since GSM R96 onwards). In 3GPP R99, said functionality is enhanced, with the possibility to page the subscriber in the VLR.

The present proposal has no impact on the existing current location retrieval feature in MSC. Neither has it any impact on CAP or MAP protocol. The mechanism for the HLR to obtain the called subscriberís location and state during MT call handling is an operatorís option.

The CRs for Rel-6 and Rel-7 are provided in document SP-040503 for approval.

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-25	SP-040503	22.078	175	-	Rel-6	F	Location Retrieval for MT call handling	6.5.0	6.6.0	S1-040688
SP-25	SP-040503	22.078	176	-	Rel-7	A	Location Retrieval for MT call handling	7.0.0	7.1.0	S1-040689

6.2 Various CRs to 22.146 (Rel-6)

6.2.1 Removal of notification requirement while receiving PS or CS services

It was reported to SA1 that GERAN cannot fulfil the requirement of notification while receiving PS or CS services in the Release 6 timeframe. To this end, SA1 have elaborated a CR to remove the requirement for Rel-6.

The CR is provided in document SP-040504 for approval.

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-25	SP-040504	22.146	044	-	Rel-6	F	Rel-6 removal of notification requirement while receiving PS or CS services	6.5.0	6.6.0	S1-040706

6.2.2 Key management priority for MBMS services

SA1 has received a liaison statement on MBMS key Management. It was agreed in SA3 that the work would continue under the assumption that key management in the UICC and the key management in the ME shall both be supported by the current release. However, some companies objected in SA3 to the keeping of both ME and UICC key management solutions and proposed to have the UICC-based solution only, which was claimed to provide higher security.

A response has been provided to SA3 in which SA1 has agreed that the UICC solution is to have priority and that the ME based solution is to be optional.

Based on this, a CR to 22.146 was elaborated proposing that if a terminal supports MBMS it shall support UICC based key management and that ME key management be optional. It is recognised that according to this CR a user in possession of a UICC that does not support UICC based key management (i.e. a pre-Rel-6 UICC) may not be able to receive MBMS services even if the terminal they are using supports MBMS (i.e. if the MBMS terminal does not support the option for ME based key management). This means that the ME based key management option will need to be supported within MBMS terminals in order to provide MBMS to users with pre-Rel-6 UICCs.

The CR is provided in document SP-040504 for approval.

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-25	SP-040504	22.146	045	-	Rel-6	F	Key management priority for MBMS services	6.5.0	6.6.0	S1-040720

6.3 Minor corrections to TS 22.246 (MBMS User Services)

Also related to MBMS, but for TS 22.246, SA1 has identified several minor errors that exist within TS 22.246 (MBMS User Services). These need to be corrected before the Rel-6 specification set is frozen (provisionally planned for September 2004).

Therefore, document SP-040505 contains the corrections and is presented for approval.

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-25	SP-040505	22.246	005	-	Rel-6	D	Minor corrections to TS 22.246 (MBMS User Services)	6.1.0	6.2.0	S1-040634

6.4 Various CRs to 22.234 (Rel-6)

A number of CRs are presented to 22.234 on WLAN in document SP-040506.

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-25	SP-040506	22.234	005	-	Rel-6	F	Clarification to WLAN PLMN Selection	6.1.0	6.2.0	S1-040710
SP-25	SP-040506	22.234	006	-	Rel-6	F	Use of the SSID List at WLAN PLMN Selection	6.1.0	6.2.0	S1-040711
SP-25	SP-040506	22.234	007	-	Rel-6	F	Clarification of Interworking between PLMN and WLANs clause 5.1.7.1	6.1.0	6.2.0	S1-040712
SP-25	SP-040506	22.234	008	-	Rel-6	F	Clarification of the relationship between different levels of WLAN interworking	6.1.0	6.2.0	S1-040715
SP-25	SP-040506	22.234	009	-	Rel-6	F	Clarification on the WLAN identities lists for I-WLAN selection	6.1.0	6.2.0	S1-040726

6.4.1 Clarification to WLAN PLMN Selection

There is some text in TS 22.234 that refers to WLAN APs, which are actually inside of the I-WLAN, but which is a black box from 3GPP perspective. The selection of a specific WLAN AP is out of the scope of 3GPP specifications and so CR 005 is being proposed to clarify this.

6.4.2 Use of the SSID List at WLAN PLMN Selection

CR 22.234-006 introduces an I-WLAN identities' preference list. Currently, when 2 I-WLANs are connected to the best PLMN found during I-WLAN PLMN selection, there is no way for the WLAN UE to select the best I-WLAN according the WLAN identities' preference list (when it is present). Moreover, the I-WLAN PLMN selection process is not optimal as the available I-WLAN are checked in an arbitrary order, whereas using the SSID list could help the user to find the HPLMN quicker. However, this CR does not make this list mandatory, and the behaviour is unchanged for operators who do not implement the WLAN identities' preference list.

6.4.3 Clarification of Interworking between PLMN and WLANs clause 5.1.7.1

CR to 22.234-007 contains a CR on clarification of Interworking between PLMN and WLANs clause 5.1.7.1. It would appear that the text is not clear, regarding corporate WLANs.

6.4.4 Clarification of the relationship between different levels of WLAN interworking

CR to 22.234-008 contains a clarification of the relationship between different levels of WLAN interworking. TS 22.234 describes several levels of interworking between the 3GPP system and WLAN. These scenarios are described without stating that each of the levels of interworking are independent. This has lead to confusion when standardising the architecture for 3GPP-WLAN Interworking.

6.4.5 Clarification on the WLAN identities lists for I-WLAN selection

Finally, CR 22.234-009 contains some access rights changes to the WLAN preferred identities list. In some scenarios the user will benefit from being able to add entries to the WLAN preferred identities list so that, for example, the preferred WLAN access point can always be tried first. At the same time the home PLMN of the subscriber may need to access and modify the list when, for example, there is a new WLAN preferred identity or when the subscriber requests to revert to the default list. It is then beneficial to give both the user and the HPLMN of the user write permission for this list.

6.5 GUP, UE requirements corrections (22.240, Rel-6)

SA1 received a CR to 22.240 on GUP-UE-Requirements to make the UE GUP data part clear throughout the specification. UE data is part of the GUP component residing in the network but a defined UE GUP component in the terminal is not needed. UE management standardisation is handled by the Device management group in OMA. This was provided late in SA1 #24 and was re-introduced at the last SA1 meeting.

It should be noted that Axalto has an objection to this CR.

It is presented for discussion/approval in document SP-040507

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-25	SP-040507	22.240	006	-	Rel-6	F	GUP, UE requirements corrections	6.3.0	6.4.0	S1-040683

6.6 Addition of optional over-the-air ciphering (42.068, 42.069 Rel-6)

At the last meeting SA1 received a liaison statement from SA3 regarding ciphering in the Voice Group Services. Essentially, SA3 has sent a CR to several groups indicating that some changes have been made to allow ciphering. Up until now, the group call services (VGCS, VCS) did not use over-the-air ciphering in contrast to what is common practice for "ordinary" telephony services. The work is being done under the work item Key Management of group keys for Voice Group Call Services in SA3.

SA1 has two TSs that are affected; 42.068 and 42.069. The CRs for both these TSs are presented in SP-040508.

SA3 has been informed of these CRs in a liaison statement.

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-25	SP-040508	42.068	002	-	Rel-6	B	Addition of optional over-the-air ciphering for VGCS	5.0.1	6.0.0	S1-040643
SP-25	SP-040508	42.069	002	-	Rel-6	B	Addition of optional over-the-air ciphering	5.0.1	6.0.0	S1-040644

							for VBS			

7 Change Requests for Rel-7

The following sections contain CRs to release 7.

7.1 Enhancement of the USAT MMS presentation (22.038, Rel-7)

At SA #24 SA1 presented a CR to 22.038 Rel-6 on enhanced the USAT MMS presentation which was sent back to SA1 for further analysis. This was done at SA1 #25.

It is already possible to store a Multimedia Message in the UICC and to send a MM from the USAT. But it is not possible for the USAT to present a MM to the user, for example as a preview before sending it. Furthermore, GSMA has already expressed their interest in such development (LS SP-040424, SCP document SCP-030237).

The report of SA indicated that SCAG requested this functionality in Rel-6, but that this was not actually stated as a requirement of SA. There was quite a bit of discussion on this point in SA1.

In the end the CR was agreed to be applied to Rel-7 but for early implementation. In order to allow for early implementation, a WI was devised and presented in SA1.

The WI is presented in document SP-040509 and the CR is presented in document SP-040510 for approval.

It should be noted that the work item was issued on this subject very late, but was required due to the decision that this could be for Rel-7 and for early implementation. At SA1, Ericsson expressed some uncertainty if the WI was necessary although there was agreement for the CR to be Rel-7 and be marked for early implementation. A package of CRs is ready and available in order to complete the work at this round of TSGs.

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-25	SP-040510	22.038	023	-	Rel-7	B	Enhance the USAT MMS presentation	7.0.0	7.1.0	S1-040687

7.2 Requirements for the handling of SIP URIs with Presence or IM prefixes (22.228, Rel-7)

The subject of how to handle SIP URIs has been discussed at two SA1 meetings so far, and has involved CN1 and SA2. The issue is that the Uniform Resource Identifier Reference (URI) may have a prefix such as ìsipî, ìpresî and/or ìimî. Now from an operators point of view, there could be a loss of revenue if a URI is received that has on it a prefix that could not be handled and the question is how this should be solved.

The recommendation hammered out in SA1 was that there should be a requirement:

> 'Whilst not required for routing between mobiles within the IMS, it SHOULD be possible for the mobile network to recognise and route URIs, containing 'IM' or 'Pres' prefixes, received from other networks supporting such prefixes.'

'Whilst not required for routing between mobiles within the IMS, it SHOULD be possible for the UE to append an 'IM' or 'Pres' prefix to an outgoing URI to enable routing to the correct addressee in external networks supporting such prefixes.'

Based on this, it was decided that a CR should be elaborated to include the requirements above.

Whilst it is recognised that 3GPP IMS networks (a) don't need URI prefixes and (b) are currently capable of correctly routing any incoming URIs with prefixes to the addressee (by ignoring any prefixes), operators consider it desirable to be able to append prefixes to URIs, if needed, for correct routing to entities in non-3GPP networks.

The CR is provided in SP-040511.

A liaison statement in S1-040718 has been sent to CN1 and SA2 with this CR contained therein.

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-25	SP-040511	22.228	025	-	Rel-7	B	Requirements for the handling of SIP URIs with Presence or IM prefixes	6.6.0	7.0.0	S1-040717

7.3 Various CRs to 42.068 on VGCS (Rel-7)

Document SP-040512 contains a package of CRs to 42.068 for release 7.

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-25	SP-040512	42.068	003	-	Rel-7	B	VGCS support of service provider specific end-to-end encryption	5.0.1	7.0.0	S1-040707
SP-25	SP-040512	42.068	004	1	Rel-7	B	Sending of SMS to an ongoing Voice Group Call	5.0.1	7.0.0	S1-040725
SP-25	SP-040512	42.068	005	-	Rel-7	B	Enhanced talker functionality for VGCS for the support of emergency situations	5.0.1	7.0.0	S1-040728

7.3.1 VGCS support of service provider specific end-to-end encryption

The first document contains a CR to 42.068 VGCS support of end-to-end encryption. It is envisaged, that VGCS can in future be used in public networks for communication of public authority officials (e.g. police, firebrigade). For security reasons it is required to support end-to-end encryption. The encryption method is specific to the service provider and is not specified. However, to broadcast encrypted speech within a VGCS call it is required that the network does not perform any codec checks or add anything. The requirement is independent of and in addition to the requirement of VGCS to support radio ciphering (see section 6.6).

It is presented in document SP-040512 as CR 003.

7.3.2 Sending of SMS to an ongoing Voice Group Call

The second CR to 42.068 relates to sending of SMS to an ongoing Voice Group Call. It should be possible to send a short message to a voice group call. The short message shall only be delivered if the group call is established.

It was agreed to be sent to SA for approval as CR 004r1.

7.3.3 Enhanced talker functionality for VGCS for the support of emergency situations

Finally, the last CR to 42.068 relates to enhanced talker functionality for VGCS for the support of emergency situations. For the usage of VGCS in public networks it is required that a subscriber can request talker functionality in case of an emergency. For emergency cases within public networks certain service subscribers need to have special rights related to talker requests. These will be called "advisors"; e.g. the captain of a fire-fighter crew could act as the "advisor" for his men. Some applications in public networks require that information related to the current talker needs to be transmitted and displayed to all listeners of the VGCS.

During SA1 there was an objection to this CR from Nortel, primarily since more time was needed to review the changes. It is envisaged that the time between SA1 and SA was sufficient and it is presented in document SP-040512 as CR 005.

8 New TSs/TRs

SA1 has no TSs to present for approval.

9 WIs from SA1

SA1 has three updated WIs to present for approval.

9.1 Revised Multi system terminal behaviour WID

Work on Multi system terminal behaviour has commenced in SA1 and a first draft of the TR has been elaborated. However, in the process of doing this, a number of changes were identified for the WID. It was originally approved in SA #24 in SP-040306.

It is now provided in document SP-040513 for approval.

9.2 Selective disabling of UE capabilities WI

SA1 has also commenced work on the Selective disabling of UE capabilities WI, although there is currently no TR. However, the WID itself was reviewed and small editorial changes made.

During the brief discussion, several thoughts were expressed as to how to possibly protect the UE, such as a Toolkit application (ruled out, Toolkit is not mandatory), or possibly some sort of "gatekeeper" software on the mobile (not really tenable). It was agreed that the solution would of necessity be a network based solution.

Originally provided in SA #24 as SP-040477 it is now presented in document SP-040514 for approval.

9.3 Enhance the USAT MMS presentation WI

The WID on USAT MMS presentation is being provided in SP-040509 as part of the work related to document SP-040509 in section 7.1 (see above).

9.4 Update of GUP WID

Once again, the WID for GUP has been updated in SA1. TSG T and TSG CN #24 have

endorsed the transfer of T2 GUP work, i.e. TS 23.241 and TS 24.241, to CN4. This contribution proposes a corresponding update of the GUP WID.

Originally approved at SA #23 as SP-040102 it is now provided in document SP-040515 for approval.

10 Other Issues

At the last meeting of SA, SP-040308 was approved which contained a new WI on A-GNSS concept to extend A-GPS to include GALILEO. This appeared as a Building Block under the Feature WI ìLocation Services Enhancements 2î for Rel-6.

In addition, GERAN also approved a WI with the same title to cover their part of the work and it was intended to put this under the same feature as the SA1 WI. However, since these Building blocks, together with the BB ìLCS for 3GPP Interworking WLANî are the only Rel-6 items under this feature.

It is anticipated that the feature ìLocation Services Enhancements 2î will not be allowed to stay in Rel-6 whilst there are Rel-7 BBs underneath it. Also, it would be inappropriate for the feature to be moved to Rel-7 when most of it is complete.

Therefore, it has been suggested that a new feature ìLocation Services Enhancements 3î for Rel-7 should be elaborated and that these BBs for Rel-7 will be moved to it. Whilst this is essentially an internal matter for the MCC, support for this approach is being garnered and it is reported here for completeness.

11 Meetings of SA1

11.1 Meetings since last SA

The following meetings have been held since SA #21.

Meeting	Date	Place	Host
SA1#25	28 June - 02 July 2004	Montreal, Canada	NA friends of 3GPP
SA1 SWGs	24 - 27 Aug 2004	Vienna, Austria	European friends of 3GPP (Note*)

Note* No output from this meeting has been sent to SA #25.

11.2 Planned meetings

SA1 has the following meetings scheduled, so far.

SA1 Plenary

Meeting	Date	Place	Host
SA1#26	11 ñ 15 October 2004	Sophia Antipolis, FR	European friends of 3GPP
SA1#27	17 ñ 21 January 2005	South Africa	Vodacom

SA1 SWGs

None (see section 10.2 above).

Annex 1: Documents provided to this Plenary

Tdoc	Title	source	Agenda	Doc for
SP-040501	Presentation of SA1 to SA #25	SA WG1 Chairman	7.1.1	Information
SP-040502	Status report of SA1 to SA #25	SA WG1 Chairman/ MCC	7.1.1	Information
SP-040503	CRs to 22.078 on Location Retrieval for MT call handling (Rel-6, Rel-7)	SA1	7.1.3	Approval
SP-040504	Various CRs to 22.146 (Rel-6)	SA1	7.1.3	Approval
SP-040505	Minor corrections to TS 22.246 MBMS User Services Rel-6)	SA1	7.1.3	Approval
SP-040506	Various CRs to 22.234 (Rel-6)	SA1	7.1.3	Approval
SP-040507	CR to 22.240 on GUP, UE requirements corrections (Rel-6)	SA1	7.1.3	Approval
SP-040508	CRs to 42.068 & 42.069 on Addition of optional over-the-air ciphering (Rel-6)	SA1	7.1.3	Approval
SP-040509	WI on the USAT MMS presentation (Rel-7, early implementation)	SA1	7.1.3	Approval
SP-040510	CR to 22.038 on Enhancement of the USAT MMS presentation (Rel-7)	SA1	7.1.3	Approval
SP-040511	CR to 22.228 on Requirements for the handling of SIP URIs with Presence or IM prefixes (Rel-7)	SA1	7.1.3	Approval
SP-040512	Various CRs to 42.068 on VGCS (Rel-7)	SA1	7.1.3	Approval
SP-040513	Revised Multi system terminal behaviour WID	SA1	7.1.3	Approval
SP-040514	Selective disabling of UE capabilities WI	SA1	7.1.3	Approval
SP-040515	Update of GUP WID	SA1	7.1.3	Approval

Annex 2: CRs provided to this Plenary

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	Work Item	SA1 Doc
SP-25	SP-040510	22.038	023	-	Rel-7	B	Enhance the USAT MMS presentation	7.0.0	7.1.0	UEMMS	S1-040687
SP-25	SP-040503	22.078	175	-	Rel-6	F	Location Retrieval for MT call handling	6.5.0	6.6.0	TEI6	S1-040688
SP-25	SP-040503	22.078	176	-	Rel-7	A	Location Retrieval for MT call handling	7.0.0	7.1.0	TEI6	S1-040689
SP-25	SP-040504	22.146	044	-	Rel-6	F	Rel-6 removal of notification requirement while receiving PS or CS services	6.5.0	6.6.0	MBMS	S1-040706
SP-25	SP-040504	22.146	045	-	Rel-6	F	Key management priority for MBMS services	6.5.0	6.6.0	MBMS	S1-040720
SP-25	SP-040511	22.228	025	-	Rel-7	B	Requirements for the handling of SIP URIs with Presence or IM prefixes	6.6.0	7.0.0	IMIMS2	S1-040717
SP-25	SP-040506	22.234	005	-	Rel-6	F	Clarification to WLAN PLMN Selection	6.1.0	6.2.0	WLAN	S1-040710
SP-25	SP-040506	22.234	006	-	Rel-6	F	Use of the SSID List at WLAN PLMN Selection	6.1.0	6.2.0	WLAN	S1-040711
SP-25	SP-040506	22.234	007	-	Rel-6	F	Clarification of Interworking between PLMN and WLANs clause 5.1.7.1	6.1.0	6.2.0	WLAN	S1-040712
SP-25	SP-040506	22.234	008	-	Rel-6	F	Clarification of the relationship between different levels of WLAN interworking	6.1.0	6.2.0	WLAN	S1-040715
SP-25	SP-040506	22.234	009	-	Rel-6	F	Clarification on the WLAN identities lists for I-WLAN selection	6.1.0	6.2.0	WLAN	S1-040726
SP-25	SP-040507	22.240	006	-	Rel-6	F	GUP, UE requirements corrections	6.3.0	6.4.0	GUP	S1-040683
SP-25	SP-040505	22.246	005	-	Rel-6	D	Minor corrections to TS 22.246 (MBMS User Services)	6.1.0	6.2.0	MBMS	S1-040634
SP-25	SP-040508	42.068	002	-	Rel-6	B	Addition of optional over-the-air ciphering for VGCS	5.0.1	6.0.0	SECGKYV	S1-040643
SP-25	SP-040512	42.068	003	-	Rel-7	B	VGCS support of service provider specific end-to-end encryption	5.0.1	7.0.0	EGCS	S1-040707
SP-25	SP-040512	42.068	004	1	Rel-7	B	Sending of SMS to an ongoing Voice Group Call	5.0.1	7.0.0	EGCS	S1-040725
SP-25	SP-040512	42.068	005	-	Rel-7	B	Enhanced talker functionality for VGCS for the support of emergency situations	5.0.1	7.0.0	EGCS	S1-040728
SP-25	SP-040508	42.069	002	-	Rel-6	B	Addition of optional over-the-air ciphering for VBS	5.0.1	6.0.0	SECGKYV	S1-040644

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

Spec	Title	Ph1	Ph2	R96	R97	R98	R99	Rel-4	Rel-5	Rel-6	Rel-7
01.02	General Description of a GSM Public Land Mobile Network (PLMN)		4.0.2	5.0.0	6.0.1						
01.48	ISDN-based DECT/GSM interworking; Feasibility study			5.0.1	6.0.1						
01.56	GSM Cordless Telephony System (CTS) (Phase 1); CTS Authentication and Key Generation Algorithms Requirements					7.0.0					
01.60	GPRS requirements				6.0.0						
02.01	Principles of telecommunication services supported by a GSM Public Land Mobile Network(PLMN)	3.2.0	4.6.0	5.5.0	6.2.0	7.1.0					
02.02	Bearer Services (BS) Supported by a GSM Public Land Mobile Network (PLMN)	3.2.0	4.2.2	5.3.2	6.1.1	7.0.2					
02.03	Teleservices Supported by a GSM Public Land Mobile Network (PLMN)	3.4.1	4.3.1	5.3.2	6.0.0	7.0.0					
02.04	General on Supplementary Services	3.7.1	4.9.1	5.7.4	6.1.1	7.1.2					
02.06	Types of Mobile Stations (MS)	3.2.0	4.5.2	5.2.1	6.1.1	7.0.1					
02.07	Mobile Station (MS) Features	3.4.1	4.8.2	5.4.1	6.2.0	7.1.0					
02.11	Service accessibility	3.7.0	4.9.0	5.0.1	6.1.0	7.1.0					
02.16	International Mobile Station Equipment Identities (IMEI)	3.0.1	4.7.1	5.2.0	6.2.0	7.2.0					
02.20	Collection charges	3.0.1									
02.22	Stage 1 for personalisation of GSM ME			5.4.0	6.0.0	7.0.0					
02.24	Description of Charge Advice Information (CAI)		4.5.0	5.0.1	6.0.1	7.0.1					
02.30	Man-machine Interface (MMI) of the Mobile Station (MS)	3.9.0	4.13.0	5.7.1	6.1.0	7.1.1					
02.34	High Speed Circuit Switched Data (HSCSD); Stage 1			5.2.1	6.0.0	7.0.0					
02.40	Procedures for Call Progress Indications	3.2.0	4.5.0	5.0.0	6.0.0	7.0.1					
02.41	Operator Determined Barring		4.5.2	5.1.1	6.0.0	7.0.0					
02.42	Network Identity and Timezone (NITZ); Service Description, Stage 1			5.1.0	6.0.0	7.0.0					
02.43	Support of Localised Service Area (SoLSA); Service description; Stage 1					7.3.0	8.0.0				
02.56	GSM Cordless Telephony System (CTS), Phase 1; Service description; Stage 1					7.2.1	8.0.1				
02.57	Mobile Station Application Execution Environment (MExE) Service description Stage 1					7.1.0					
02.60	General Packet Radio Service Stage 1 Description				6.3.1	7.5.0					
02.63	Packet Data on Signalling channels Service (PDS); Stage 1			5.0.0	6.0.0	7.0.0					
02.66	Support of Mobile Number Portability (MNP); Service description; Stage 1					7.1.0					
02.67	Enhanced Multi-Level Precedence and Pre-			5.1.1	6.1.1	7.0.1					

	emption Service (eMLPP); Stage 1										
02.68	Voice Group Call Service (VGCS); Stage 1			5.2.1	6.0.1	7.0.2	8.1.0				
02.69	Voice Broadcast Service (VBS); Stage 1			5.2.1	6.0.1	7.0.2	8.1.0				
02.71	Location Services (LCS); Stage 1					7.3.0					
02.72	Call Deflection Service description; Stage 1					7.2.1					
02.78	Customized Applications for Mobile network Enhanced Logic (CAMEL); Service definition (Stage 1)			5.6.0	6.6.1	7.2.0					
02.79	Support of Optimal Routeing (SOR); Service definition (Stage 1)			5.2.0	6.0.0	7.0.0					
02.81	Line Identification Supplementary Services; Stage 1		4.6.1	5.1.0	6.0.0	7.0.0					
02.82	Call Forwarding (CF) Supplementary Services; Stage 1	3.6.1	4.5.2	5.0.0	6.0.0	7.0.1					
02.83	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1		4.6.7	5.0.0	6.0.0	7.0.0					
02.84	MultiParty (MPTY) Supplementary Services; Stage 1		4.4.7	5.0.0	6.0.0	7.0.0					
02.85	Closed User Group (CUG) Supplementary Services; Stage 1		4.2.6	5.0.0	6.0.0	7.0.0					
02.86	Advice of Charge (AoC) Supplementary Services; Stage 1		4.1.5	5.0.0	6.0.0	7.0.0					
02.87	User-to-User Signalling (UUS) Service Description; Stage 1					7.1.2					
02.88	Call Barring (CB) Supplementary Services; Stage 1	3.6.1	4.4.3	5.0.0	6.0.0	7.0.0					
02.90	Unstructured Supplementary Service Data (USSD); Stage 1		4.1.1	5.1.0	6.0.0	7.0.0					
02.91	Explicit Call Transfer (ECT)			5.1.1	6.0.0	7.0.0					
02.93	Completion of Calls to Busy Subcriber (CCBS) Service Description; Stage 1				6.0.1	7.0.0					
02.95	Support of Private Numbering Plan (SPNP); Service description; Stage 1			5.2.0	6.0.0	7.0.0	8.0.0				
02.96	Name Identification Supplementary Services; Stage 1				6.0.1	7.0.0					
02.97	Multiple Subscriber Profile (MSP) Service description, Stage 1					7.1.0					
21.905	Vocabulary for 3GPP Specifications						3.3.0	4.5.0	5.8.0	6.7.0	
22.001	Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN)						3.2.0	4.3.0	5.0.0		
22.002	Circuit Bearer Services (BS) supported by a Public Land Mobile Network (PLMN)						3.6.0	4.2.0	5.0.0		
22.003	Circuit Teleservices supported by a Public Land Mobile Network (PLMN)						3.3.0	4.3.0	5.2.0		
22.004	General on supplementary services						3.3.0	4.3.0	5.1.0		
22.011	Service accessibility						3.8.0	4.8.0	5.1.0	6.4.0	7.0.0
22.016	International Mobile Equipment Identities (IMEI)						3.3.0	4.2.1	5.0.0		
22.024	Description of Charge Advice Information (CAI)						3.0.1	4.0.0	5.0.0		

22.030	Man-Machine Interface (MMI) of the User Equipment (UE)						3.4.0	4.1.0	5.0.0	6.0.0	7.0.0
22.034	High Speed Circuit Switched Data (HSCSD); Stage 1						3.2.1	4.1.0	5.0.0		
22.038	USIM/SIM Application Toolkit (USAT/SAT); Service description; Stage 1						3.4.0	4.3.0	5.4.0	6.2.0	7.0.0
22.041	Operator Determined Call Barring						3.3.1	4.1.0	5.0.0	6.2.0	
22.042	Network Identity and Time Zone (NITZ) service description; Stage 1						3.0.1	4.2.1	5.1.0		
22.057	Mobile Execution Environment (MExE) service description; Stage 1						3.0.1	4.1.0	5.4.0		
22.060	General Packet Radio Service (GPRS); Service description; Stage 1						3.5.0	4.4.0	5.3.0	6.0.0	
22.066	Support of Mobile Number Portability (MNP); Stage 1						3.2.0	4.0.0	5.1.0	6.1.0	
22.067	enhanced Multi-Level Precedence and Pre-emption service (eMLPP); Stage 1						3.0.1	4.1.0	5.0.0	6.1.0	
22.071	Location Services (LCS); Stage 1						3.5.0	4.6.0	5.4.0	6.7.0	7.0.0
22.072	Call Deflection (CD); Stage 1						3.0.1	4.0.0	5.0.0		
22.078	Customized Applications for Mobile network Enhanced Logic (CAMEL); Service description; Stage 1						3.9.0	4.5.0	5.14.0	6.5.0	7.0.0
22.079	Support of optimal routeing; Stage 1						3.0.1	4.0.0	5.0.0		
22.081	Line Identification supplementary services; Stage 1						3.2.0	4.1.0	5.0.0		
22.082	Call Forwarding (CF) Supplementary Services; Stage 1						3.0.2	4.2.0	5.0.0		
22.083	Call Waiting (CW) and Call Hold (HOLD) supplementary services; Stage 1						3.0.1	4.1.0	5.0.0		
22.084	MultiParty (MPTY) supplementary service; Stage 1						3.0.1	4.1.0	5.0.0		
22.085	Closed User Group (CUG) supplementary services; Stage 1						3.1.0	4.1.0	5.0.0		
22.086	Advice of Charge (AoC) supplementary services; Stage 1						3.1.0	4.0.0	5.0.0		
22.087	User-to-user signalling (UUS); Stage 1						3.1.0	4.0.0	5.0.0		
22.088	Call Barring (CB) supplementary services; Stage 1						3.0.2	4.1.0	5.0.0		
22.090	Unstructured Supplementary Service Data (USSD); Stage 1						3.1.0	4.0.0	5.0.0		
22.091	Explicit Call Transfer (ECT) supplementary service; Stage 1						3.1.0	4.0.0	5.0.0		
22.093	Completion of Calls to Busy Subscriber (CCBS); Service description, Stage 1						3.0.1	4.0.0	5.0.0		
22.094	Follow Me service description - Stage 1						3.1.0	4.1.0	5.0.0	6.0.0	
22.096	Name identification supplementary services; Stage 1						3.0.1	4.0.0	5.0.0		
22.097	Multiple Subscriber Profile (MSP) Phase 1; Service description - Stage 1						3.2.0	4.1.0	5.0.0		

22.100	UMTS Phase 1						3.7.0				
22.101	Service aspects; Service principles						3.17.0	4.10.0	5.13.0	6.8.0	7.0.0
22.105	Services and service capabilities						3.10.0	4.3.0	5.2.0	6.2.0	
22.115	Service Aspects Charging and billing						3.4.0	4.1.0	5.4.0	6.4.0	
22.121	Service aspects; The Virtual Home Environment; Stage 1						3.3.1	4.1.1	5.3.1		
22.127	Service Requirement for the Open Services Access (OSA); Stage 1							4.4.0	5.5.0	6.6.0	
22.129	Handover requirements between UTRAN and GERAN or other radio systems						3.6.0	4.4.0	5.2.0	6.1.0	
22.135	Multicall; Service description; Stage 1						3.4.0	4.2.0	5.0.0		
22.140	Multimedia Messaging Service (MMS); Stage 1						3.1.0	4.3.0	5.4.0	6.6.0	
22.141	Presence service; Stage 1									6.2.0	
22.146	Multimedia Broadcast/Multicast Service (MBMS); Stage 1									6.5.0	
22.174	Push service; Stage 1									6.2.0	
22.226	Global text telephony (GTT); Stage 1: Service description								5.2.0		
22.228	Service requirements for the Internet Protocol (IP) multimedia core network subsystem; Stage 1								5.6.0	6.6.0	
22.233	Transparent end-to-end packet-switched streamng service; Stage 1								5.0.0	6.3.0	
22.240	Service requirements for 3GPP Generic User Profile (GUP); Stage 1									6.3.0	
22.242	Digital Rights Management (DRM); Stage 1									6.2.0	
22.243	Speech recognition framework for automated voice services; Stage 1									6.4.0	
22.246	Multimedia Broadcast/Multicast Service (MBMS) user services; Stage 1									6.1.0	
22.250	IP Multimedia Subsystem (IMS) Group Management; Stage 1									6.0.0	
22.340	IP Multimedia Subsystem (IMS) messaging; Stage 1									6.1.0	
22.800	IP Multimedia Subsystem (IMS) subscription and access scenarios									6.0.0	
22.934	Feasibility study on 3GPP system to Wireles Local Area Network (WLAN) interworking									6.2.0	
22.940	IP Multimedia Subsystem (IMS) messaging; Stage 1									6.0.0	
22.944	Service requirements for UE functionality split								5.1.0		
22.949	Study on a generalized privacy capability									6.0.0	
22.950	Priority service feasibility study									6.3.0	
22.951	Service aspects and requirements for network sharing									6.1.0	
22.952	Priority service guide									6.1.0	
22.971	Automatic establishment of roaming relationships						3.1.1				
22.975	Advanced addressing						3.1.0				

22.977	Feasibility study for speech-enabled services									6.0.0	
22.978	All-IP feasibility study										0.0.0
42.043	Support of Localised Service Area (SoLSA); Service description; Stage 1							4.0.0	5.0.0		
42.056	GSM Cordless Telephony System (CTS), Phase 1; Service description; Stage 1							4.0.0	5.0.0		
42.068	Voice Group Call Service (VGCS); Stage 1							4.1.0	5.0.1		
42.069	Voice Broadcast Service (VBS); Stage 1							4.1.0	5.0.1		
22.234	Requirements on 3GPP system to Wireless Local Area Network (WLAN) interworking									6.1.0	