

Source: Chairman, Secretary S1
Title: Status Report of SA_WG1 (Services)
Document for: Information and Decision
Agenda Item: 7.1.1

TSG SA1 STATUS REPORT

1	General Overview of Progress	2
2	Change Requests for R99	2
2.1	Bearer Services Supported by a GSM PLMN (22.002)	2
2.2	Service accessibility (22.011)	3
2.3	General Packet Radio Service (GPRS) (22.060)	3
2.4	CAMEL phase 3 (22.078)	3
2.5	Interaction between Multicall and MSP	4
2.6	Explicit Call Transfer (22.091)	4
2.7	Location Services (22.071)	5
2.9	Simultaneous WAP and SIM toolkit services sessions.....	5
2.8	New Abbreviations and Definitions for R99	5
3	Change Requests for R00.....	6
3.1	Release 2000.....	6
3.2	PLMN selection (22.011)	8
3.4	CAMEL (22.078)	8
3.5	Virtual Home Environment (22.121)	8
3.6	MExE (22.121)	9
3.7	Bearer Modification without pre-notification.....	9
3.8	Bearer Services Supported by a GSM PLMN (22.002)	10
3.9	Emergency Call.....	10
3.10	Location Services (22.071)	10
3.11	Global Text Telephony (22.226)	11
4	Work Item Descriptions	11
5	Outlook for future meetings.....	11
6	Planned meetings of S1	11
	Annex 1: Documents provided to this Plenary.....	13
	Annex 2: CRs provided to this Plenary	15
	Annex 3: TSs and TRs under SA1 responsibility.....	18

1 General Overview of Progress

The TSG SA WG1#9 Plenary Meeting was held in Taastrup, Denmark from the 18th to 21st July 2000. It was chaired by Mr Alan Cox (Vodafone) and the secretary was Mr Michael Clayton from the MCC. The host was Telecom Denmark.

The last SA1 R00 ad hoc was held on the 6th to 8th September 2000 in Slough, UK. It was chaired by Tommi Kokkola from Nokia and the secretary was Michael Clayton from the MCC. The host was BT

SA1 continues to make good progress. Our work on R99 has been confined to a few CRs for correction or alignment. In Release 00, we are reaching some stability for the service requirements for those items which are targeted for completion in the next few months (potentially for R4 if agreed). We have prepared for information a new specification 22.228 "Service requirements for the IP Multimedia Core Network Sub-system (stage 1)" version 1.0.0, together with changes to a number of other specifications which are impacted by this.

Revised Work Items description sheets for VHE and OSA are presented for approval. Most of the remaining work of SA1 for R00 is covered by existing WIDs although SA1 will spend some time at the next meeting on the project plan.

At this meeting, SA1 are presenting 17 CRs to R99, 58 (56) CRs to R00 and three specifications for information. The specifications are:

Tdoc	Title	Agenda
SP-000370	TS 22.228 v 1.0.0 "Service requirements for the IP Multimedia Core Network subsystem; (Stage1)"	7.1.3
SP-000404	TS 22.226 v 1.0.0 "Global Text Telephony; (Stage1)"	7.1.3
SP-000417	TS22.127 v 1.0.0 "Service Requirement for the Open Services Access (OSA); (Stage 1)"	7.1.3

There is one issue from SA1 agenda item 7.1.2. It relates to a postponed LS originally sent to the SA R00 planning ad hoc (See annex 4).

2 Change Requests for R99

The majority of CRs presented by SA1 are for Release 00. However, there are some corrections to R99.

The following sections give a brief outline of the CRs.

2.1 Bearer Services Supported by a GSM PLMN (22.002)

At its last meeting SA1 received a liaison statement from CN3 on 32 kbit/s UDI/RDI multimedia. The circuit switched multimedia service was specified in the 3GPP R99 for both UMTS and GSM. However, there are still some minor restrictions in some specifications that prevent the use of the 32 kbit/s UDI/RDI multimedia, based on the use of a single TCH/F32 ECSD channel, in GSM. CN3 want to remove the restrictions.

This would appear to be a new requirement for R99, but nonetheless, rather than slow the

work, SA1 have elaborated a CR to 22.002, which is provided in document SP-000371.

This CR was agreed to be provided to SA #9 for approval subject to CN3 completing the package of CRs, including those for GERAN. It should be noted that this is not a requirement from SA1 and, in the event that GERAN cannot support the change the SA1 CR will be rejected as there are to be no new requirements introduced into R99.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000371	22.002	007		R99	F	32 kbit/s UDI/RDI multimedia in GSM	3.4.0	3.5.0	S1-000561

2.2 Service accessibility (22.011)

At the last meeting a proposal for a correction to 22.011 was provided to align 22.011 with 23.122 on the network selection procedure. In 23.122 the term used in “PLMN/access technology combinations” whereas 22.011 uses the term “PLMNs” in the equivalent text.

It has been questioned in SA1 if this is truly required, but after some checking, and a significant period of email approval, the two CRs (R99 and R00) have been ratified by SA1 and being presented for approval in document S1-000372.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000372	22.011	017		R99	F	Alignment with 23.122 on selection procedure	3.2.0	3.3.0	S1-000548
SP-09	SP-000372	22.011	018		R00	F	Alignment with 23.122 on selection procedure	4.1.0	4.2.0	S1-000549

2.3 General Packet Radio Service (GPRS) (22.060)

After some waiting regarding the status of Point-To-Multipoint Group-call SA1 has now taken the initiative to remove the functionality described in the Stage 1 that is not supported in the Stage 2 or Stage 3. This is necessary to provide a clear description of R99. The substantive CR to do this is provided in document SP-000733 to SA #9 for approval.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000373	22.060	017		R99	F	Removal of PTM-G text from stage 1	3.4.0	3.5.0	S1-000590

2.4 CAMEL phase 3 (22.078)

SA1 received two proposals for correctional CRs to 22.078.

The first is the Removal of user interaction at answer DPs. User interaction was introduced to stage 1 in CAMEL3 for the O/T_Answer DPs. However, the CAMEL3 stage 2 does not implement UI at event of the answer. Therefore this alignment is needed.

The second is a CR to 22.078 on GPRS AC/ACR alignment of shared data volume control.

The CAMEL3 stage 2 does not include the functionality of shared data volume control, although stage 1 requires it. Implementing of such functionality is somewhat complicated for the reasons given in the reason for change in the CR. Therefore, it was decided to remove the requirement from the stage 1 to align with the stages 2 and 3.

Both these CRs are presented in document SP-000374

SA	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New	SA1 Doc
----	---------	------	----	-----	-------	-----	---------	------	-----	---------

Meet									Vers	
SP-09	SP-000374	22.078	049		R99	F	Removal of user interaction at answer	3.4.1	3.5.0	S1-000506
SP-09	SP-000374	22.078	060		R99	F	GPRS AC/ACR alignment of shared	3.4.1	3.5.0	S1-000540

2.5 Interaction between Multicall and MSP

SA1 has received a proposal to clarify the interaction of MSP with multicall supplementary service in two CRs; one to 22.097 and 22.135. In Multicall, there is the ability to specify the maximum number of simultaneous CS bearers. It has been noticed, however, that there is not text indicating if this maximum number of simultaneous CS bearers should apply to all profiles in MSP or to each profile.

This is a release 99 CR, and it was asked if there is an impact on the stage 2. It has been answered that there is no impact. Based on this, and if there are no impacts, SA1 has agreed that these CRs should be sent to SA #9 for approval. They are presented in document SP-000375.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000375	22.097	003		R99	F	Interaction with Multicall	3.1.0	3.2.0	S1-000584
SP-09	SP-000375	22.135	006		R99	F	Interaction with MSP	3.3.0	3.4.0	S1-000585

Leading on from this, changes to the Man-Machine interface have also been proposed relating to Multicall to correct a mistake. It would appear that the parameters of multicall are not reflected correctly. In this instance, a reference to Nbr has been made where Nbr_user should be used.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000376	22.030	009		R99	F	Codes for defined Supplementary Services	3.3.0	3.4.0	S1-000501

Finally, there are two CRs related to Multicall. The first, 22.135-007, relates to a requirement on the network to tear down existing calls in order to accept an emergency call. However, this requirement is wrong for a number of reasons. The second CR 22.135-008, is an alignment with the stage 2; in chapter 7.4, Ncs_MT is missing. These are presented in document SP-000406.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000406	22.135	007		R99	F	Removal of the Requirement on Network to Tear Down Calls to Accept EC in Multicall	3.3.0	3.4.0	S1-000656
SP-09	SP-000406	22.135	008		R99	F	Addition of Ncs_MT limitation to number of MPTY members	3.3.0	3.4.0	S1-000657

2.6 Explicit Call Transfer (22.091)

At SA #8 a CR was approved for Line Identification Services regarding the "Cause for no CLI" (22.081-003). Since ECT makes use of CLI information when transferring a call (it transfers CLI of the calling party to the transferred-to-party) the "Cause for no CLI" is relevant in this case too. Hence, CR 22.091-002 is being provided for approval to correct this omission.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000377	22.091	002		R99	F	CR on CLI presentation modifications	3.0.1	3.1.0	S1-000587

2.7 Location Services (22.071)

Document SP-000377 contains a proposed alignment between the stage 1 and stage 2 for release 99 and an equivalent CR to release 2000 in document S1-000485. Apparently both MS-Based and MS-Assisted LCS methods are introduced and incorporated into the LCS stage 2 and stage 3 documents of R'98, R'99 and R'00. In the current R'00 stage 1 document the MS-Based method is discussed, however the MS-Assisted method is not properly addressed. This contribution is being proposed to add the appropriate MS-Assisted description to reflect the context of the LCS protocols already solidified in the stage 2 and stage 3 documents.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000378	22.071	007		R99	F	Correction to LCS Service Description	3.2.0	3.3.0	S1-000485
SP-09	SP-000378	22.071	008		R00	F	Correction to LCS Service Description	4.0.0	4.1.0	S1-000484

2.9 Simultaneous WAP and SIM toolkit services sessions

At the last meeting of SA1 a discussion document on simultaneous WAP and SIM toolkit services sessions was provided. When a WAP service and a SIM toolkit service have to run simultaneously, prioritisation of access to the handset resources, e.g. display and keyboard, is not fully defined for either service. This could lead to different implementations of the same service in different handsets or even impossibility to implement the service because of hazardous behaviour of the handset. This issue has not been dealt with either in the 3GPP specifications or in the WAP forum specifications.

CR 22.101-055 has been forwarded to T2, T3, NewSMG9 and the WAP Forum. There have been replies from all the groups except the WAP Forum, although it is understood that T3 have had a reply from this group.

T3 have brought up some comments, but T2 have proposed a revision of the CR. Since T2 met very close to the plenary, there has not been time to review the proposal from T2 by SA1.

Therefore, the two CRs are being provided to SA #9 in document SP-000379. TSG SA is being asked to approve one of the two CRs. The other should be rejected.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000379	22.101	055		R99	F	Handling of interactions between applications requiring the access to UE resources	3.10.0	3.11.0	S1-000631
SP-09	SP-000379	22.101	056		R99	F	Handling of interactions between applications requiring the access to UE resources	3.10.0	3.11.0	S1-000693

2.8 New Abbreviations and Definitions for R99

As decided in SA #8, there will be a version of the Definitions and Abbreviations for each release. To this end, the CR 21.905-002 contains only changes relate to R99.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
---------	---------	------	----	-----	-------	-----	---------	------	----------	---------

SP-09	SP-000380	21.905	002		R99	D	New Abbreviations and Definitions for R99	3.1.1	3.2.0	S1-000477
-------	-----------	--------	-----	--	-----	---	---	-------	-------	-----------

2.9 Handover Requirements between UMTS and GSM

CR 22.129-013 is one of a series of proposed changes to TS 22.129 (handover requirements) that apply to release 00. This CR removes reference to the SoLSA requirement since there is no approved SoLSA work item for release 00. Note that this CR changes the R99 version of the specification that refers to SoLSA.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000426	22.129	013		R99	F	Removal of requirements for SoLSA support	3.3.0	3.4.0	S1-000574

3 Change Requests and Specifications for R00

The following CRs are presented for R00. SA1 delegate are aware of the decision of the SA Release 2000 ad hoc in Helsinki and, to this end, there is an indication on each CR if they should be Release 4 or Release 5 (Rel4 or Rel5).

3.1 Release 2000

Further to the decision by SA #8 not to approve the report 22.976, SA1 has been working on the implementation of the requirements in line with the generally agreed way forward for release 2000.

Along with a number of CRs listed below, SA1 has produced a new stage 1 entitled to "Service requirements for the IP Multimedia Core Network Subsystem (Stage 1)". The TS number for this 22.228 in line with the number adopted by SA2 for the stage 2 for the Network Subsystem.

The specification is presented in document SP-000370 for information. It is anticipated that the SA1 ad hoc group will hold a co-located meeting with its opposite number in SA2 in the near future. This notwithstanding, SA1 is working in close liaison with SA2 on this issue.

The CRs provided below have been agreed by SA1 to be forwarded to SA #9 for approval:

MExE Acronym

The MExE specification incorrectly uses the MS (mobile station) acronym instead of the term UE (user equipment). Therefore a number of CRs are being presented to change the acronym for Release 00 (SP-000381).

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000381	22.057	002		R00	D	Mobile Execution Environment	3.0.1	4.0.0	S1-000626
SP-09	SP-000381	21.905	003		R00	D	Change of Name of MExE	3.1.1	4.0.0	S1-000627
SP-09	SP-000381	22.038	005		R00	D	Change of MExE name	3.2.0	4.0.0	S1-000637
SP-09	SP-000381	22.078	050		R00	D	Change of MExE name	3.4.1	4.0.0	S1-000638
SP-09	SP-000381	22.105	026		R00	D	Change of MExE name	3.9.0	4.0.0	S1-000639
SP-09	SP-000381	22.121	013		R00	D	Change of MExE name	3.3.0	4.0.0	S1-000640

SAT/USAT Support of Multimedia Services

A major feature of 3GPP Release 2000 is support for IP multimedia services. SA1 are

currently enhancing their specifications to specify requirements for such services. With respect to the USAT stage 1 specification 3GPP TS 22.038, two high level service requirements are proposed:

- the ability of the SAT/USAT application to control IP multimedia services;
- the provision of additional user interface functionality to control and invoke IP multimedia services.

The change to do this is provided in CR 22.038-039 in document SP-000382.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000382	22.038	004		R00	B	Release 2000 features	3.2.0	4.0.0	S1-000629

UMTS Service principles (22.101)

Quite a number of changes have been made to 22.101 to implement the requirements for R2000.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000383	22.101	040		R00	B	Multimedia messaging	4.0.0	4.1.0	S1-000603
SP-09	SP-000383	22.101	041		R00	C	Service Management requirements	4.0.0	4.1.0	S1-000605
SP-09	SP-000383	22.101	043		R00	F	Classification of services	4.0.0	4.1.0	S1-000625
SP-09	SP-000383	22.101	044		R00	B	IP multimedia services	4.0.0	4.1.0	S1-000622
SP-09	SP-000383	22.101	045		R00	B	IP multimedia session for Emergency call	4.0.0	4.1.0	S1-000621
SP-09	SP-000383	22.101	046		R00	D	Editorial changes to 22.101 for Release 2000	4.0.0	4.1.0	S1-000598
SP-09	SP-000383	22.101	048		R00	C	Service evolution	4.0.0	4.1.0	S1-000620
SP-09	SP-000383	22.101	053		R00	F	Subscription	4.0.0	4.1.0	S1-000704
SP-09	SP-000383	22.101	054		R00	F	Roaming	4.0.0	4.1.0	S1-000705

As stated, SA1 is aware that there is a proposal to split the work of R00 into two releases. However, there are two CRs being presented that contain changes related to both potential releases. In anticipation of the change to the release, the SA1 R00 ad hoc prepared four further CRs to split the work.

Therefore, CR 22.101-042 resulted in 22.101-042r1 and 22.101-52 and CR 22.101-047 resulted in 22.101-047r1 and 22.101-051. The four resulting CRs are functionally the same as the original CRs; it is merely an editorial change to split the work into the two releases (Rel 4 and Rel 5). These four CRs have been put on email approval, but some comments have been received. Therefore, the original CRs are being presented in document SP-000429 and the resulting CRs in document SP-000430. SA Plenary are being asked to either approve document SP-000429 or SP-000430.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000429	22.101	042		R00	F	General corrections and clarifications to 22.101 for Release 2000	4.0.0	4.1.0	S1-000618
SP-09	SP-000429	22.101	047		R00	C	Numbering Principles	4.0.0	4.1.0	S1-000597
SP-09	SP-000430	22.101	042	1	R00	F	General corrections and clarifications to 22.101 for Release 2000	4.0.0	4.1.0	S1-000700
SP-09	SP-000430	22.101	047	1	R00	C	Numbering Principles	4.0.0	4.1.0	S1-000698
SP-09	SP-000430	22.101	051		R00	C	IM Number portability	4.0.0	4.1.0	S1-000699
SP-09	SP-000430	22.101	052		R00	F	Introduction of IM CN Subsystem	4.0.0	4.1.0	S1-000701

On another subject SA1 sent a liaison statement to the Release 2000 planning ad hoc. This liaison statement was seen at that meeting but was postponed to the SA #9. Since it is not obvious if this liaison statement was to be sent from the ad hoc or if it should be

presented by SA1 again, it is being reproduced in this status report. See annex 4.

3.2 PLMN selection (22.011)

Document SP-000385 contains a proposed CR to 22.011 on reselection attempts of GPRS terminals. This is an editorial CR to enhance the wording. Since a correction is being made to 22.011 release 00 (see section 2.2), then the opportunity was taken to edit this text.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000385	22.011	019		R00	D	Reselection attempts of GPRS terminals	4.1.0	4.2.0	S1-000537

3.4 CAMEL (22.078)

SA1 has, for some time, been working on the Release 2000 version of CAMEL (phase 4). The change requests have been available for some time, in SA1 and the work has been co-ordinated with CN. Now, it is deemed appropriate to create the version 4 of 22.078 with these changes. Of note is CR 22.078-056 which makes a major change to the specification; the use of markers to indicate what phase of CAMEL is being referred-to are proposed to be removed to make it easier to read. With this, version 4.0.0 of 22.078 describes only phase 4 of CAMEL.

The CRs are presented for approval in document SP-000425.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000425	22.078	051		R00	C	Proposed CR to 22.078 Section 6 for IP Telephony in CAMEL Phase 4	3.4.1	4.0.0	S1-000507
SP-09	SP-000425	22.078	052		R00	C	Proposed CR to 22.078 Section 1 for IP Telephony in CAMEL Phase 4	3.4.1	4.0.0	S1-000508
SP-09	SP-000425	22.078	053		R00	C	Proposed CR to 22.078 Section 4 for IP Telephony in CAMEL Phase 4	3.4.1	4.0.0	S1-000509
SP-09	SP-000425	22.078	054		R00	B	Introduction of MT SMS interworking with CAMEL4	3.4.1	4.0.0	S1-000510
SP-09	SP-000425	22.078	055		R00	C	Proposed CR to 22.078 Section 3 for IP Telephony in CAMEL Phase 4	3.4.1	4.0.0	S1-000511
SP-09	SP-000425	22.078	056		R00	C	Removal of tags associated with previous releases of CAMEL	3.4.1	4.0.0	S1-000512
SP-09	SP-000425	22.078	057		R00	B	Introduction of IPT for CAMEL4	3.4.1	4.0.0	S1-000513
SP-09	SP-000425	22.078	058		R00	B	Inclusion of Mid call event	3.4.1	4.0.0	S1-000514
SP-09	SP-000425	22.078	059		R00	B	Inclusion of flexible tone injection	3.4.1	4.0.0	S1-000515
SP-09	SP-000425	22.078	061		R00	C	GPRS AC/ACR alignment of shared data volume control (Stage 1 vs. 2)	3.4.1	4.0.0	S1-000417
SP-09	SP-000425	22.078	064		R00	B	Transport of Charging Information to the Home Network	3.4.1	4.0.0	S1-000596

3.5 Virtual Home Environment (22.121)

SA1 has been active on the subject of VHE. One major decision was to split the work into VHE and OSA, which used to be a part of the VHE specification. The CR to do this is provided in 22.121-012.

A WID has been provided for OSA (or OISP) and VHE to SA #8. The VHE WID was approved in principle but was sent to SA1 for editing. The OSA WID was approved but has undergone some changes to bring the acronym back to OSA, which stands for Open System Access, and to align the work tasks and timing with CN5.

Nonetheless, work has continued on OSA/OISP. The time scale for the OSA/OISP work is to have version 3.0.0 TS by S1 plenary meeting in November 2000. It should be noted that

the OSA stage 1, is a new TS 22.127 v 1.0.0 “Service Requirement for the Open Services Access (OSA)”. This is provided for information in document SP-000417.

The time scale for the VHE work has been very aggressive, with the aim to have final CR for R00 to be available for this SA meeting. Although this has not been achieved, any remaining work is not expected to be significant.

The following CRs are being presented to 22.121 on the subject of VHE alone in document SP-000387.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000387	22.121	011		R00	C	VHE in R00 User Profile	3.3.0	4.0.0	S1-000566
SP-09	SP-000387	22.121	012		R00	C	VHE in R00	3.3.0	4.0.0	S1-000565
SP-09	SP-000387	22.121	014		R00	D	Realisation of Application interface	3.3.0	4.0.0	S1-000564
SP-09	SP-000387	22.121	015		R00	B	Synchronisation of distributed user profiles	3.3.0	4.0.0	S1-000569
SP-09	SP-000387	22.121	016		R00	B	Uniquely addressable user profiles	3.3.0	4.0.0	S1-000570
SP-09	SP-000387	22.121	017		R00	D	VASP indirect support of VHE	3.3.0	4.0.0	S1-000571

The updated WID is being provided with the OSA WID in document SP-000393.

3.6 MExE (22.121)

At the last meeting of TSG T, T2 approved a new WID for MExE which was forwarded to SA1 in a liaison statement. In order to support the WID, additional requirements need to be incorporated into a Release 2000 22.057. Further, a CR to 22.057 containing an informative annex on example MExE services is also attached.

One of the CRs proposed by T2 (on the informative annex) was listed as an editorial CR for R99. Whilst SA1 has some sympathy for this change, it was considered that the change should apply to R00 only.

The two CRs are presented in document SP-000388.

Support of Multimedia Services in MExE

Document SP-000338 also contains a CR to 22.057, the MExE Stage 1, to identify requirements for the support of IP multimedia services, and the ability to personalise multimedia services consisting of multiple media components. A Release 2000 version of the document is created.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000388	22.057	003		R00	B	MExE support of multimedia services	3.0.1	4.0.0	S1-000628
SP-09	SP-000388	22.057	004		R00	D	Informative annex on example MExE services	3.0.1	4.0.0	S1-000428
SP-09	SP-000388	22.057	005		R00	B	MExE Classmark updates	3.0.1	4.0.0	S1-000428

3.7 Bearer Modification without pre-notification

For a little while now, SA1 has been working on Bearer Modification without Pre-Notification. At the last meeting, a number of CRs were presented to implement the needed changes.

The CRs are to 22.001, 22.105 and 22.129 and are presented in document SP-000389.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000389	22.001	004		R00	B	CR on TS22.001 for Bearer Modification without pre-notification	3.2.0	4.0.0	S1-000642
SP-09	SP-000389	22.105	027		R00	B	Bearer Modification without pre-notification	3.9.0	4.0.0	S1-000641
SP-09	SP-000389	22.129	014		R00	B	Bearer Modification without pre-notification	3.3.0	4.0.0	S1-000613

3.8 Bearer Services Supported by a GSM PLMN (22.002)

In the course of the work related to Bearer Modification without pre-notification it was noticed that there is a reference to BS 30NT. Considering the current situation (no terminals supporting BS 30 NT and there are no networks providing this service) it is proposed to delete the non-transparent version of the Bearer Service 30 continuing the process of R99 service clean-up that recently deleted the Basic Packet Access service.

To this end, CR 22.002-008 is being presented in document SP-000390 for approval.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000390	22.002	008		R00	C	Deletion of bearer service BS 30 NT	3.4.0	3.5.0	S1-000595

3.9 Emergency Call

At the last SA meeting, there was a proposal to clarify the working of emergency call setup when the UE does not recognise the dialled digits as an emergency call. Therefore, a proposal has been received to clarify a note.

The CR 22.101-049 is presented in document SP-000391.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000391	22.101	049		R00	D	Emergency Call	4.0.0	4.1.0	S1-000573

3.10 Location Services (22.071)

A number of CRs were presented to the last SA1, which were complex, and they contained multiple changes on a variety of topics. Therefore, at the plenary it was requested that these change requests be clarified, and that individual change requests be provided related to each of the different topics for which changes were sought. Hence they were postponed to an LCS ad hoc to further progress in this area.

The ad hoc has provided a number of CRs that have been provided to SA1 via email and which have been approved by SA1. Two CRs from ad hoc were objected on email approval and are thus sent back to next SA1.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000392	22.071	009		R00	C	Provision of Velocity for Location Services	4.0.0	4.1.0	S1-000667
SP-09	SP-000392	22.071	010		R00	B	External LCS client identity	4.0.0	4.1.0	S1-000670
SP-09	SP-000392	22.071	011		R00	B	Privacy Control for LCS	4.0.0	4.1.0	S1-000671
SP-09	SP-000392	22.071	012		R00	F	Privacy Control for LCS	4.0.0	4.1.0	S1-000672
SP-09	SP-000392	22.071	013		R00	D	Clarifications to LCS on privacy and Service response	4.0.0	4.1.0	S1-000673
SP-09	SP-000392	22.071	014		R00	F	LCS: Geographic Location	4.0.0	4.1.0	S1-000674
SP-09	SP-000392	22.071	015		R00	D	Adding statement on "active" and "idle" UE in chapter 4.13	4.0.0	4.1.0	S1-000675
SP-09	SP-000392	22.071	016		R00	D	Radio Access Network support for	4.0.0	4.1.0	S1-000676

						LCS				
SP-09	SP-000392	22.071	017		R00	D	LCS, Identification of a Target UE using IP addresses	4.0.0	4.1.0	S1-000677
SP-09	SP-000392	22.071	018		R00	D	LCS: LCS Open Service Architecture (OSA) and Application Programming Interface.	4.0.0	4.1.0	S1-000678

3.11 Global Text Telephony (22.226)

Work has continued steadily in SA1 on Global Text Telephony. To this end, SA1 is ready to present the CTT stage 1 for information. Document SP-000404 contains this stage 1 at version 1.0.0.

Also, CR 22.101-050 is being presented in SP-000405 to introduce text conversation for GTT.

SA Meet	SA Doc.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc
SP-09	SP-000405	22.101	050		R00	B	Text Conversation	4.0.0	4.1.0	S1-000649

4 Work Item Descriptions

At the last SA plenary, WI descriptions for VHE and OSA were presented for approval. Both were rejected and sent back to SA1 for updating. This has been done and so the WIDs are provided in document SP-000393 for approval.

SA Meet	SA Doc.	Spec	Phase	WID Title/Subject	SA1 Doc
SP-09	SP-000393	22.121	R00	Scope of Open Interface for Service Provision	S1-000647
SP-09	SP-000393	22.228	R00	Modified VHE WID	S1-000488

5 Outlook for future meetings

SA1 has continued in earnest with the work of Release 2000. The TS "Service requirements for the IP Multimedia Core Network" in TS22.228 is being presented for information and the work is ongoing to implement the CRs necessary to complement this stage1.

If the proposals from the Helsinki ad hoc are implemented, SA1 is poised to create R4 and R5 versions.

In either case, SA1 will now concentrate on the work program to bring this in to line with the work items ongoing or pending.

6 Planned meetings of S1

S1#10	13-17 November 2000	Orlando, USA	US Members
S1#11	5-9 February 2001	Host needed	
S1#12	7-11 May 2001	Provisional offer for Finland	

S1#13	9-13 July 2001	North America
S1#14	29 Oct. - 2 Nov. 2001	Host needed

Alan Cox

Annex 1: Documents provided to this Plenary

Tdoc	Title	Agenda
SP-000368	Presentation of Status report from SA WG1 to SA#9	7.1.1
SP-000369	Status report from SA WG1 to SA#9	7.1.1
SP-000370	TS 22.228 v 1.0.0 "Service requirements for the IP Multimedia Core Network"	7.1.3
SP-000371	CR (R99) to 22.002 on 32 kbit/s UDI/RDI multimedia in GSM	7.1.3
SP-000372	CRs (R99) to 22.011 on Alignment with 23.122 on selection procedure	7.1.3
SP-000373	CR (R99) to 22.060 on Removal of PTM-G text from stage 1	7.1.3
SP-000374	CRs (R99) to 22.078 for alignment to stage 2	7.1.3
SP-000375	CRs (R99) to 22.097 and 22.135 on Interaction between Multicall and MSP	7.1.3
SP-000376	CR (R99) to 22.030 on Codes for defined Supplementary Services	7.1.3
SP-000377	CR (R99) to 22.091 on CLI presentation modifications	7.1.3
SP-000378	CRs (R99) to 22.071 on Correction to LCS Service Description Stage 1 for alignment	7.1.3
SP-000379	CRs (R99) to 22.101 on Interactions between applications requiring the access to UE resources	7.1.3
SP-000380	CR (R99) to 21.905 on New Abbreviations and Definitions for R99	7.1.3
SP-000381	CR to various specs on Change of MExE name	7.1.3
SP-000382	CR to 22.038 on SAT/USAT Support of Multimedia Services	7.1.3
SP-000383	CRs to 22.101 to implement the requirements for R2000	7.1.3
SP-000426	CR to 22.129 on Removal of requirements for SoLSA support	7.1.3
SP-000385	CR to 22.011 on Reselection attempts of GPRS terminals	7.1.3
SP-000425	CRs to 22.078 for CAMEL phase 4	7.1.3
SP-000387	CRs to 22.121 on VHE for R00	7.1.3
SP-000388	CR to 22.057 on MExE support of multimedia services	7.1.3
SP-000389	CRs to various specs. for Bearer Modification without pre-notification	7.1.3
SP-000390	CR to 22.002 on Deletion of bearer service BS 30 NT	7.1.3
SP-000391	CR to 22.101 on Emergency Call	7.1.3

SP-000392	CRs to 22.071 on LCS for R00	7.1.3
SP-000393	New work Item Descriptions for VHE and OSA	7.1.3
SP-000404	TS 22.226 v 1.0.0 "Global Text Telephony"	7.1.3
SP-000405	CR to 22.101 on Text conversation for Global Text Telephony	7.1.3
SP-000406	CRs to 22.135 on Multicall	7.1.3
SP-000417	TS22.127 v 1.0.0 "Service Requirement for the Open Services Access (OSA)"	7.1.3
SP-000429	CRs to 22.101 to implement the requirements for R2000 Part 2	7.1.3
SP-000430	CRs to 22.101 to implement the requirements for R2000 Part 3	7.1.3

Annex 2: CRs provided to this Plenary

SA Meet	Spec	CR	Rev	Phase	Cat	Subject	Vers	SA Doc.	New Vers	SA1 Doc
SP-09	21.905	002		R99	D	New Abbreviations and Definitions for R99	3.1.1	SP-000380	3.2.0	S1-000477
SP-09	21.905	003		R00	D	Change of Name of MExE	3.1.1	SP-000381	4.0.0	S1-000627
SP-09	22.001	004		R00	B	CR on TS22.001 for Bearer Modification without pre-notification	3.2.0	SP-000389	4.0.0	S1-000642
SP-09	22.002	007		R99	F	32 kbit/s UDI/RDI multimedia in GSM	3.4.0	SP-000371	3.5.0	S1-000561
SP-09	22.002	008		R00	C	Deletion of bearer service BS 30 NT	3.4.0	SP-000390	3.5.0	S1-000595
SP-09	22.011	017		R99	F	Alignment with 23.122 on selection procedure	3.2.0	SP-000372	3.3.0	S1-000548
SP-09	22.011	018		R00	F	Alignment with 23.122 on selection procedure	4.1.0	SP-000372	4.2.0	S1-000549
SP-09	22.011	019		R00	D	Reselection attempts of GPRS terminals	4.1.0	SP-000385	4.2.0	S1-000537
SP-09	22.030	009		R99	F	Codes for defined Supplementary Services	3.3.0	SP-000376	3.4.0	S1-000501
SP-09	22.038	004		R00	B	Release 2000 features	3.2.0	SP-000382	4.0.0	S1-000629
SP-09	22.038	005		R00	D	Change of MExE name	3.2.0	SP-000381	4.0.0	S1-000637
SP-09	22.057	002		R00	D	Mobile Execution Environment	3.0.1	SP-000381	4.0.0	S1-000626
SP-09	22.057	003		R00	B	MExE support of multimedia services	3.0.1	SP-000388	4.0.0	S1-000628
SP-09	22.057	004		R00	D	MExE Release 2000	3.0.1	SP-000388	4.0.0	S1-000428
SP-09	22.057	005		R00	B	MExE Classmark updates	3.0.1	SP-000388	4.0.0	S1-000428
SP-09	22.060	017		R99	F	Removal of PTM-G text from stage 1	3.4.0	SP-000373	3.5.0	S1-000590
SP-09	22.071	007		R99	F	Correction to LCS Service Description Stage 1 Document (R'99)	3.2.0	SP-000378	3.3.0	S1-000485
SP-09	22.071	008		R00	F	Correction to LCS Service Description Stage 1 Document (R'00)	4.0.0	SP-000378	4.1.0	S1-000484
SP-09	22.071	009		R00	C	Provision of Velocity for Location Services	4.0.0	SP-000392	4.1.0	S1-000667
SP-09	22.071	010		R00	B	External LCS client identity	4.0.0	SP-000392	4.1.0	S1-000670
SP-09	22.071	011		R00	B	Privacy Control for LCS	4.0.0	SP-000392	4.1.0	S1-000671
SP-09	22.071	012		R00	F	Privacy Control for LCS	4.0.0	SP-000392	4.1.0	S1-000672
SP-09	22.071	013		R00	D	Clarifications to LCS on privacy and Service response	4.0.0	SP-000392	4.1.0	S1-000673
SP-09	22.071	014		R00	F	LCS: Geographic Location	4.0.0	SP-000392	4.1.0	S1-000674
SP-09	22.071	015		R00	D	Adding statement on "active" and "idle" UE in chapter 4.13	4.0.0	SP-000392	4.1.0	S1-000675
SP-09	22.071	016		R00	D	Radio Access Network support for LCS	4.0.0	SP-000392	4.1.0	S1-000676
SP-09	22.071	017		R00	D	LCS, Identification of a Target UE using IP addresses	4.0.0	SP-000392	4.1.0	S1-000677
SP-09	22.071	018		R00	D	LCS: LCS Open Service Architecture (OSA) and Application Programming Interface.	4.0.0	SP-000392	4.1.0	S1-000678

SP-09	22.078	049		R99	F	Removal of user interaction at answer DPs (Release 99)	3.4.1	SP-000374	3.5.0	S1-000506
SP-09	22.078	050		R00	D	Change of MExE name	3.4.1	SP-000381	4.0.0	S1-000638
SP-09	22.078	051		R00	C	Proposed CR to 22.078 Section 6 for IP Telephony in CAMEL Phase 4	3.4.1	SP-000425	4.0.0	S1-000507
SP-09	22.078	052		R00	C	Proposed CR to 22.078 Section 1 for IP Telephony in CAMEL Phase 4	3.4.1	SP-000425	4.0.0	S1-000508
SP-09	22.078	053		R00	C	Proposed CR to 22.078 Section 4 for IP Telephony in CAMEL Phase 4	3.4.1	SP-000425	4.0.0	S1-000509
SP-09	22.078	054		R00	B	Introduction of MT SMS interworking with CAMEL4	3.4.1	SP-000425	4.0.0	S1-000510
SP-09	22.078	055		R00	C	Proposed CR to 22.078 Section 3 for IP Telephony in CAMEL Phase 4	3.4.1	SP-000425	4.0.0	S1-000511
SP-09	22.078	056		R00	C	Removal of tags associated with previous releases of CAMEL	3.4.1	SP-000425	4.0.0	S1-000512
SP-09	22.078	057		R00	B	Introduction of IPT for CAMEL4	3.4.1	SP-000425	4.0.0	S1-000513
SP-09	22.078	058		R00	B	Inclusion of Mid call event	3.4.1	SP-000425	4.0.0	S1-000514
SP-09	22.078	059		R00	B	Inclusion of flexible tone injection	3.4.1	SP-000425	4.0.0	S1-000515
SP-09	22.078	060		R99	F	GPRS AC/ACR alignment of shared data volume control (Stage 1 vs. 2)	3.4.1	SP-000374	3.5.0	S1-000540
SP-09	22.078	061		R00	C	GPRS AC/ACR alignment of shared data volume control (Stage 1 vs. 2)	3.4.1	SP-000425	4.0.0	S1-000417
SP-09	22.078	062		R99	F	Alignment with stage 2 & 3, and editorial clarification	3.4.1		3.5.0	
SP-09	22.091	002		R99	F	CR on CLI presentation modifications	3.0.1	SP-000377	3.1.0	S1-000587
SP-09	22.097	003		R99	F	Interaction with Multicall	3.1.0	SP-000375	3.2.0	S1-000584
SP-09	22.101	040		R00	B	Multimedia messaging	4.0.0	SP-000383	4.1.0	S1-000603
SP-09	22.101	041		R00	C	Service Management requirements	4.0.0	SP-000383	4.1.0	S1-000605
SP-09	22.101	042		R00	F	General corrections and clarifications to 22.101 for Release 2000	4.0.0	SP-000429	4.1.0	S1-000618
SP-09	22.101	042	1	R00	F	General corrections and clarifications to 22.101 for Release 2000	4.0.0	SP-000430	4.1.0	S1-000700
SP-09	22.101	043		R00	F	Classification of services	4.0.0	SP-000383	4.1.0	S1-000625
SP-09	22.101	044		R00	B	IP multimedia services	4.0.0	SP-000383	4.1.0	S1-000622
SP-09	22.101	045		R00	B	IP multimedia session for Emergency call	4.0.0	SP-000383	4.1.0	S1-000621
SP-09	22.101	046		R00	D	Editorial changes to 22.101 for Release 2000	4.0.0	SP-000383	4.1.0	S1-000598
SP-09	22.101	047		R00	C	Numbering Principles	4.0.0	SP-000429	4.1.0	S1-000597
SP-09	22.101	047	1	R00	C	Numbering Principles	4.0.0	SP-000430	4.1.0	S1-000698
SP-09	22.101	048		R00	C	Service evolution	4.0.0	SP-000383	4.1.0	S1-000620
SP-09	22.101	049		R00	D	Emergency Call	4.0.0	SP-000391	4.1.0	S1-000573
SP-09	22.101	050		R00	B	Text Conversation	4.0.0	SP-000405	4.1.0	S1-000649
SP-09	22.101	051		R00	C	IM Number portability	4.0.0	SP-000430	4.1.0	S1-000699
SP-09	22.101	052		R00	F	Introduction of IM CN Subsystem	4.0.0	SP-000430	4.1.0	S1-000701
SP-09	22.101	053		R00	F	Subscription	4.0.0	SP-000383	4.1.0	S1-000704
SP-09	22.101	054		R00	F	Roaming	4.0.0	SP-000383	4.1.0	S1-000705
SP-09	22.101	055		R99	F	Handling of interactions between	3.10.0	SP-000379	3.11.0	S1-000631

						applications requiring the access to UE resources				
SP-09	22.101	056		R99	F	Handling of interactions between applications requiring the access to UE resources	3.10.0	SP-000379	3.11.0	S1-000693
SP-09	22.105	026		R00	D	Change of MExE name	3.9.0	SP-000381	4.0.0	S1-000639
SP-09	22.105	027		R00	B	Bearer Modification without pre-notification	3.9.0	SP-000389	4.0.0	S1-000641
SP-09	22.121	011		R00	C	VHE in R00 User Profile	3.3.0	SP-000387	4.0.0	S1-000566
SP-09	22.121	012		R00	C	VHE in R00	3.3.0	SP-000387	4.0.0	S1-000565
SP-09	22.121	013		R00	D	Change of MExE name	3.3.0	SP-000381	4.0.0	S1-000640
SP-09	22.121	014		R00	D	Realisation of Application interface	3.3.0	SP-000387	4.0.0	S1-000564
SP-09	22.121	015		R00	B	Synchronisation of distributed user profiles	3.3.0	SP-000387	4.0.0	S1-000569
SP-09	22.121	016		R00	B	Uniquely addressable user profiles	3.3.0	SP-000387	4.0.0	S1-000570
SP-09	22.121	017		R00	D	VASP indirect support of VHE	3.3.0	SP-000387	4.0.0	S1-000571
SP-09	22.129	013		R00	F	Removal of requirements for SoLSA support	3.3.0	SP-000426	4.0.0	S1-000574
SP-09	22.129	014		R00	B	Bearer Modification without pre-notification	3.3.0	SP-000389	4.0.0	S1-000613
SP-09	22.135	006		R99	F	Interaction with MSP	3.3.0	SP-000375	3.4.0	S1-000585
SP-09	22.135	007		R99	F	Removal of the Requirement on Network to Tear Down Calls to Accept EC in Multicall	3.3.0	SP-000406	3.4.0	S1-000656
SP-09	22.135	008		R99	F	Addition of Ncs_MT limitation to number of MPTY members	3.3.0	SP-000406	3.4.0	S1-000657

Annex 3: TSs and TRs under SA1 responsibility

Type	Number	Title	Planned / achieved	WG	Editor
TR	21.905	3G Vocabulary	Dec 99	S1	Michele Zarri
TS	22.001	Principles of Telecommunication Services Supported by a GSM Public Land Mobile Network (PLMN)		S1	
TS	22.002	Bearer Services Supported by a GSM PLMN	Oct 99	S1	Paul Carpenter
TS	22.003	Teleservices Supported by a GSM Public Land Mobile Network (PLMN)		S1	Tommi Kokkola
TS	22.004	General on Supplementary Services	Oct 99	S1	Paul Carpenter
TS	22.011	Service accessibility	Oct 99	S1	Jean-Paul Gallaire
TS	22.016	International Mobile Equipment Identities (IMEI)	Oct 99	S1	Tommi Kokkola
TS	22.024	Description of Charge Advice Information (CAI)	Oct 99	S1	Stephanie Manning
TS	22.030	Man-Machine Interface (MMI) of the Mobile Station (MS)	Oct 99	S1	Tommi Kokkola
TS	22.034	High Speed Circuit Switched Data (HSCSD) – Stage 1	Oct 99	S1	Tommi Kokkola
TS	22.038	SIM application toolkit (SAT); Stage 1	Oct 99	S1	Bill Robinson
TS	22.041	Operator Determined Call Barring	Oct 99	S1	Stephanie Manning
TS	22.042	Network Identity and Time Zone (NITZ), stage 1	Oct 99	S1	Mikael Dahkvist
TS	22.043	Support of Localised Service Area (SoLSA) – Stage 1	Oct 99	S1	Tommi Kokkola
TS	22.057	Mobile Station Application Execution Environment (MexE); Stage 1	Oct 99	S1	Mark Cataldo
TS	22.060	General Packet Radio Service (GPRS); Stage 1	Oct 99	S1	Paul Carpenter
TS	22.066	Support of Mobile Number Portability (MNP); Stage 1	Oct 99	S1	
TS	22.067	enhanced Multi-Level Precedence and Pre-emption service (eMLPP) – Stage 1	Oct 99	S1	Joerg Swetina
TS	22.071	Location Services (LCS); Stage 1 (T1P1)	Oct 99	S1	Randolph Wohlert
TS	22.072	Call Deflection (CD); Stage 1	Oct 99	S1	Horst Rauch
TS	22.078	CAMEL; Stage 1	Oct 99	S1	Michel Grech
TS	22.079	Support of Optimal Routing; Stage 1	Oct 99	S1	
TS	22.081	Line Identification Supplementary Services; Stage 1	Oct 99	S1	Thomas Ahnberg
TS	22.082	Call Forwarding (CF) Supplementary Services; Stage 1	Oct 99	S1	Jean Paul Gallaire
TS	22.083	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1	Oct 99	S1	
TS	22.084	MultiParty (MPTY) Supplementary Service; Stage 1	Oct 99	S1	
TS	22.085	Closed User Group (CUG) Supplementary Services; Stage 1	Oct 99	S1	
TS	22.086	Advice of Charge (AoC) Supplementary Services; Stage 1	Oct 99	S1	Stephanie Manning
TS	22.087	User-to-user signalling (UUS); Stage 1	Oct 99	S1	Christian Braden
TS	22.088	Call Barring (CB) Supplementary Services; Stage 1	Oct 99	S1	
TS	22.090	Unstructured Supplementary Service Data (USSD); Stage 1	Oct 99	S1	Tommi Kokkola
TS	22.091	Explicit Call Transfer (ECT) Supplementary Service; Stage 1	Oct 99	S1	
TS	22.093	Call Completion to Busy Subscriber (CCBS); Stage 1	Oct 99	S1	
TS	22.094	Follow Me Stage 1	Dec 99	S1	
TS	22.096	Calling Name Presentation (CNAP); Stage 1 (T1P1)	Oct 99	S1	
TS	22.097	Multiple Subscriber Profile (MSP); Stage 1	Oct 99	S1	Stephanie Manning
TS	22.100	UMTS Phase 1	April 99	S1	Jean-Paul Gallaire
TS	22.101	UMTS Service principles	April 99	S1	Stephanie Manning
TS	22.105	Services & Service capabilities	April 99	S1	Wayne Ashwell
TS	22.115	Service Aspects Charging and billing	April 99	S1	Emanuele Montegrosso
TS	22.121	Provision of Services in UMTS – The Virtual Home Environment	June 99	S1	Jumoke Ogunbekum

Type	Number	Title	Planned / achieved	WG	Editor
TS	22.129	Handover Requirements between UMTS and GSM or other Radio Systems	April 99	S1	David Cooper
TS	22.135	Multicall Stage1	Dec 99	S1	Tommi Kokkola
TS	22.140	Multimedia Messaging Service Stage 1	Dec 99	S1	Gunnar Schmidt
TR	22.907	Terminal concepts	April 99	S1	Mika Tolvanen
TR	22.960	Mobile multimedia services	April 99	S1	Thomas Ahnberg
TR	22.971	Automatic establishment of roaming relationships	April 99	S1	Emanuele Montegrosso
TR	22.972	Multimedia	Dec 99	S1	
TR	22.975	Advanced addressing	April 99	S1	Stephan Kleier
TR	22.976	Release 2000 services and capabilities	June 00	S1	Mark Cataldo
TR	23.927	VHE, Open Service Architecture	Dec 99	S1	

Annex 4 LS to R00 Planning Ad Hoc

Title: Proposed Liaison on Service Continuity requirements for Release 2000

To: TSG SA Release 2000 Work Planning ad-hoc, TSG SA WG2

Source: TSG SA WG1¹

Document for: Discussion and Approval

Introduction

TSG SA WG1 has been working on the requirements for Service Continuity for Release 2000 and wishes to raise this to the TSG SA R00 planning ad-hoc.

Requirements

The attached CR to 22.129 identifies the agreed operators' requirements for Service Continuity.

Concern has been expressed in S1 at the complexity of implementing the inter-domain service continuity requirement and whether this can be achieved in Release 2000. Nevertheless, this remains a strong operator requirement and is needed in the short term to support network operators' rollout of Release 2000.

S1 could not agree which of the requirements should be part of Release 2000. Having identified the operator requirements, it is now an issue of prioritisation and timescales to determine which requirements will be included and when.

Action required from TSG SA

¹ Nick Sampson, Orange PCS Ltd (nick.sampson@orange.co.uk)

TSG SA is asked to consider these requirements in the wider scope of the Release 2000 planning ad-hoc and provide guidance to S1 and other groups on which requirements should be met and in what timeframe.

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

22.129 CR xxxxx

Current Version: **3.3.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **SA#9**
list expected approval meeting # here

for approval
for information

strategic (for SMG
non-strategic use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects:

(at least one should be marked with an X)

(U)SIM ME UTRAN / Radio Core Network

Source: Rapporteur

Date: 30 June 2000

Subject: Handover requirements for Release 2000

Work item:

Category:

(only one category shall be marked with an X)

F Correction
A Corresponds to a correction in an earlier release
B Addition of feature
C Functional modification of feature
D Editorial modification

Release:

Phase 2
Release 96
Release 97
Release 98
Release 99
Release 00

Reason for change:

Inclusion of Handover requirements for Release 2000, based on TR 22.976 v2.0.0 section 7.7.

Clauses affected: 3, 4, 7.2

Other specs affected:

Other 3G core specifications → List of CRs:
Other GSM core specifications → List of CRs:
MS test specifications → List of CRs:
BSS test specifications → List of CRs:
O&M specifications → List of CRs:

Other comments:



help.doc

<----- double-click here for help and instructions on how to create a CR.

3 Definitions and Abbreviations

3.1 Definitions

For the purposes of the present document, the following definitions apply:

Connection mode (for a bearer service): characterises the type of association between two endpoints as required by the bearer service for the transfer of information. A bearer service is either connection-oriented or connectionless. In a connection oriented mode, a logical association called *connection* needs to be established between the source and the destination entities before information can be exchanged between them. Connection oriented bearer services lifetime is the period of time between the establishment and the release of the connection.

Connectionless (for a bearer service): In a connectionless bearer, no connection is established beforehand between the source and the destination entities; the source and destination network addresses need to be specified in each message. Transferred information cannot be guaranteed of ordered delivery. Connectionless bearer services lifetime is reduced to the transport of one message.

GSM coverage: an area where mobile cellular services are provided in accordance with GSM standards

UMTS coverage: an area where mobile cellular services are provided in accordance with UMTS standards.

Multi mode terminal: UE that can obtain service from at least one UTRA radio access mode, and one or more different systems such as GSM bands or possibly other radio systems such IMT-2000 family members.

Handover: The process in which the radio access network changes the radio transmitters or radio access mode or radio system used to provide the bearer services, while maintaining a defined bearer service QoS.

Intra PLMN handover: Handover within the same network, i.e. having the same MCC-MNC regardless of radio access system. Note: this includes the case of UMTS <>GSM handover where MCC-MNC are the same in both cases.

Inter PLMN handover: Handover between different PLMNs, i.e. having different MCC-MNC.

Inter system handover: Handover between networks using different radio systems , e.g. UMTS – GSM.

UTRA Radio access mode: the selected UTRA radio access mode i.e. UTRA-FDD; UTRA-TDD.

Radio system: the selected 2nd or 3rd generation radio access technology, e.g. UMTS or GSM.

Service Continuity: The means for maintaining active services during changes in the coverage areas or their characteristics without, as far as possible, the user noticing. any change to the service. Service continuity in this context does not include access to services in different coverage areas, for example when roaming. Note that Service Continuity can be achieved by handover, cell re-selection or other mechanisms.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

UE User equipment

4 General Principles governing ~~handover requirements~~ service continuity

This section describes the general principles ~~for service continuity governing the operation of UMTS when preparing for and executing handover both~~ within the UTRAN, within the GERAN ~~UMTS and between the UTRAN and another radio systems~~ such as GSM ~~GERAN~~. ~~It also describes the additional concepts required to be included in GSM to allow preparation for and handover to UMTS.~~ As a principle, the requirements on handover service continuity characteristics should be according to the network ~~to~~ on which the service is maintained. ~~handover is made.~~

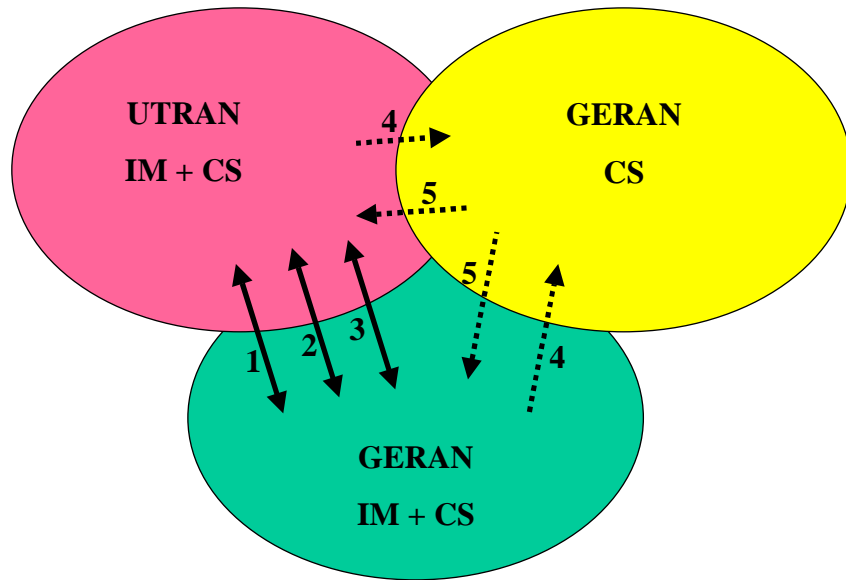
4.1 Service Continuity Scenarios

Service continuity shall support the following scenarios:

1. Continuity of active CS services when moving within UTRAN, within GERAN and between UTRAN and GERAN coverage areas.
2. Continuity of active IM services when moving within UTRAN, within GERAN and between UTRAN and GERAN coverage areas (that support those IM services).
3. Continuity of active GPRS sessions when moving within UTRAN, within GERAN and between UTRAN and GERAN coverage areas.
4. Continuity of active IM services when moving from UTRAN and GERAN coverage areas (that support IM services) to GERAN coverage area (that does not support IM services but does support CS services). In this case, at least the voice component of the IM service shall be maintained (this requires that the voice component is supported in the CS domain to maintain adequate quality of service). This scenario is required to support service continuity during the transitional rollout period.
5. When in an IM service coverage area with an active CS voice call, it shall to possible to continue a CS voice call as the voice component of a new IM session to
 - a) enhance the network operator's traffic management capability;
 - b) allow the user to add IM components to the original voice call.

These scenarios are shown by the diagram below (the scenarios shown with dashed lines are inter-domain service continuity scenarios):

Note: either the UTRAN or GERAN can support IM services only; in this case scenario 1 does not apply.



In the case of service continuity between the IM services and CS services, the following issues are for further study:

- a) where multiple voice component are established, the decision as to which voice component is continued;
- b) whether multi-party, held calls and waiting calls are continued.

Service continuity is not applicable for any call or session using resources specific to the source domain that cannot be maintained using an equivalent service in the target domain.

4.2 Service Continuity requirements

The table and text in this section show the service continuity requirements derived from the scenarios described above.

For all scenarios, the specifications shall cover both service continuity within the same PLMN (intra-PLMN) and between PLMNs (inter-PLMN) including the case where the PLMNs involved are operated by different network operators.

4.2.1 Service continuity for CS and IM services

The scenario numbers in this table refer to the scenarios in section 4.1.

		<u>To CS services</u>		<u>To IM services</u>		<u>To CS ANSI 136 basic services (Note 2)</u>
		<u>UTRAN</u>	<u>GERAN</u>	<u>UTRAN</u>	<u>GERAN</u>	
<u>From CS services</u>	<u>UTRAN</u>	<u>Yes - Scenario 1</u>	<u>Yes - Scenario 1</u>	<u>Yes - Scenario 5 (note 1,3)</u>	<u>Yes - Scenario 5 (note 1, 3)</u>	<u>FFS</u>
	<u>GERAN</u>	<u>Yes - Scenario 1</u>	<u>Yes - Scenario 1</u>	<u>Yes - Scenario 5 (note 1, 3)</u>	<u>Yes - Scenario 5 (note 1, 3)</u>	<u>FFS</u>
<u>From IM services</u>	<u>UTRAN</u>	<u>Yes - Scenario 4 Note 4</u>	<u>Yes - Scenario 4 (note 4)</u>	<u>Yes - Scenario 2</u>	<u>Yes - Scenario 2</u>	<u>FFS</u>
	<u>GERAN</u>	<u>Yes - Scenario 4 Note 4</u>	<u>Yes - Scenario 4 (note 4)</u>	<u>Yes - Scenario 2</u>	<u>Yes - Scenario 2</u>	<u>FFS</u>
<u>From CS ANSI 136 basic services (Note 2)</u>		<u>FFS</u>	<u>FFS</u>	<u>FFS</u>	<u>FFS</u>	<u>Out of scope</u>
<p><u>Note 1: Service continuity of IM Services is not applicable to and from GERAN Release 99 as the IM Services service classes are not supported by GERAN Release 99. Note that the "voice-only" service is seen as a special case of the IP Multimedia service.</u></p> <p><u>Note 2: Requirements dependent on the result of the associated work item (UMTS Interworking with ANSI-41 networks).</u></p> <p><u>Note 3: Service continuity of a CS voice call to a voice component of an IM session.</u></p> <p><u>Note 4: Service continuity of any voice component of an IM session to a CS voice call.</u></p>						

4.2.2 Service continuity for GPRS

Service continuity of GPRS sessions (conversation, streaming, interactive and background) is required within the GERAN, within the UTRAN, and between the UTRAN and GERAN (scenario 3 in section 4.1 above).

Note: Service continuity for conversational, streaming and interactive GPRS sessions is not applicable to and from GERAN Release 99, due to the lack of support for the conversational, streaming and interactive GPRS within GERAN Release 99. In the case of continuity to GERAN R99, although the QoS required may not be available in the target, the bearer shall be maintained as long as

possible. The user makes the decision whether to continue with the call based on the application behaviour.

The handover matrix

handover possible?	to UMTS	to GSM-cs	to GSM-GPRS	to IMT2000 ≠ UMTS
From UMTS	1	1	1	x
From GSM-cs	1	oos	oos	oos
From GSM-GPRS	1	oos	oos	oos
From IMT2000 ≠ UMTS	x	oos	oos	oos

oos = out of scope of UMTS specifications

1= supporting standards required for UMTS release 99.

x= supporting standards required, not necessarily for release 99.

GSM-GPRS in the table refers to R97, R98 and R99 GPRS.

For UMTS release 99 means shall be defined which:

1) Enable handover to a GSM network from a UMTS network;

2) Enable handover to a UMTS network from a GSM network.

~~In both the cases above the GSM network may be operated by either the same network operator as the UMTS network or a different network operator.~~

~~Handover of real time PS services between UMTS and GPRS R99 is out of the scope of UMTS R99 phase 1 and shall be considered in subsequent phases. Service continuity of best effort packet services between UMTS and GPRS is required.~~

4.43 Requirements for Service Capabilities

UMTS standardises service capabilities, not services. As part of the service capabilities it is envisaged that applications may wish to respond to events related to handover that either has occurred, is about to occur or could potentially occur. The service capabilities described in this section should be available at least to UE hosted applications.

The following list is of uses is exemplary and is not intended to be exhaustive:

- An application may wish to accept or reject offered QoS;
- An application may wish to cope to the effect that handover has on a service, for example facsimile retransmission;
- An application may wish to preferentially choose radio resources, for purposes such as SoLSA.

It is therefore required that the service capability set available to an application be able to provide an indication that handover has occurred or could occur with information about the type of handover and radio resources involved. The service capabilities should support QoS negotiation.

4.1.1 Support of localised service area (SoLSA)

The UMTS service capability set shall support the Localised Service Area (LSA) concept. It shall facilitate the creation of applications that implement user-dependent radio resource selection based on LSA (e.g. when user is located at his office, radio coverage provided with indoor radio solutions should be preferred). This may cause handover to take place within UMTS or into other radio systems. Corresponding GSM feature has been specified in [2].

4.24 General Operational Considerations

4.24.1 Coverage environment

Mechanisms defined to support handoverservice continuity between UMTS and other radio systems (such as other IMT 2000 family members, or GSM) or UTRA radio access modes should effectively cope with a number of coverage scenarios:

- Limited UMTS coverage in a 'sea' of coverage provided by another radio system or UTRA radio access mode, or, vice-versa;
- Selective operation at a geographical boundary, with extensive UMTS coverage on one side and extensive coverage from another radio system on the other side;
- Geographically co-located areas of UMTS coverage and another radio system.

However the standards should impose no restrictions or assumptions on how an operator might deploy or operate the network in both GSM and UMTS.

4.24.2 Inter PLMN Handover Issues

Handovers to support service continuity between PLMNs should remain an optional feature to implement. It is envisaged that handover would take place due to changing radio conditions caused e.g. by movement of the terminal causing it to leave the coverage area of a PLMN.

The following networks may be involved with an inter-PLMN handover procedure. These concepts are illustrated in Annex A:

- The user's *home network*, i.e. the operator where the user's subscription may be found;
- The user's *visited network* where the subscriber user is currently registered, i.e. the network where the subscriber user has performed the last successful update location procedure. As long as the subscriber user is roaming within the home network, home and visited network are identical;
- The user's *serving network* covering the cell that serves the subscriber. After successful completion of the update location update procedure, the serving network is identical with the visited network. After an inter-PLMN handover, the visited network is different from the serving network until a location update procedure has been successfully completed (excepted the case that the subscriber returns into the visited network);
- The *target network* covering candidate target cell(s) for inter-PLMN handover. The target network has overlapping radio coverage with the serving network but not necessarily with the visited network.

The minimum requirements for inter-PLMN HO are:

- Continuity of an *active call* across the handover procedure, where this would be possible for intra-PLMN handover;
- Charging, billing and accounting for inter-PLMN handover should be according to the principles defined in [3]. For R'99 the mechanisms currently used in GSM should be provided as a minimum (charging for handover leg is based on visited network tariff, etc., settlement between operators is based on bulk metering, etc.);
- The ability to check with the home network whether the user is permitted to handover from the visited network to a target network;
- The decision whether the handover request is accepted must be taken by the target network;
- Invocation of the handover procedure only occurs if the target network provides the radio channel type required for the respective call;
- The avoidance of "network hopping", i.e. successive handover procedures between neighbouring networks for the same call;
- The possibility of user notification of inter-PLMN HO (e.g. possible tariff change) when it occurs.

For R99 there can only be one target PLMN for HO in addition to the serving PLMN for R99 in a given geographical area.

4.24.3 Charging and Network Management

Means shall be standardised which allow charging records to record the time of handover in the case of inter-PLMN operator handover. Charging records must be able to reflect the level of UTRA radio access, operation mode and network type after handover.

The issue of charging and billing for a call or session that is the subject of handover between CS CN domain and IM CN subsystem is for the specific PLMN operator to resolve; it is not an issue for standardisation. Charging records shall, however, provide sufficient information for the operator to identify those calls or sessions that have been the subject of inter-domain handover.

A capability to provide network management information relating to frequency of occurrence and type of handover should be defined.

4.24.4 Cost and efficiency

The UTRAN standards shall facilitate the cost-effective implementation both on the network and on the terminal side, of multi mode operation between GSM and UMTS. Impacts on the GSM network shall be minimised. Such handover shall not require user intervention.

4.24.5 Security

Security requirements relating to handover shall be elaborated in a separate document ([4]), but should embody the principle that handover shall not compromise the security of the network providing the new radio resources; the (possibly different) network providing the original radio resources; and the terminalUE. The security mechanisms should also cater for appropriate authentication processes and meet the requirements of national administrations in terms of lawful interception.

4.35 Performance Requirements

4.35.1 Temporary degradation of service caused by handover

~~Any degradation of service d~~During intra UMTS handover or ~~in the case of~~ handover from UMTS to GSM, degradation of service shall be no ~~worse~~greater than during intra GSM handover.

The duration of the discontinuity experienced by PS and CS real time services should be shorter than that in the handover of GSM CS speech calls.

Table 2 in the section below give the absolute requirements for IP multimedia services and GPRS.

4.5.2 GERAN/UTRAN handover performance requirements for IP multimedia service and GPRS

Service Classes	Application	Degree of symmetry	Data rate	Key performance parameters and target values			
				Max. service interruption (Audio/Video mute)	User Data Transmission Requirement		
					Max. data trans. Delay	Max. service impact	Information loss
Conver-sational Class	Voice	Two-way	4-25 kb/s	<=150ms	TBD	NA	TBD
Streaming Class	Streaming audio	One-way	32-128 kb/s	TBD	TBD	NA	TBD
	Streaming video	One or two way	32-384 kb/s	TBD	TBD	NA	TBD
	Bulk data transfer/retrieval	One-way		NA	TBD	TBD	None
Interactive Class	Interactive best effort data	Two-way		TBD	TBD	TBD	None
Background Class	Best effort data	One-way		NA	TBD	TBD	None

Table 2: GERAN/UTRAN service continuity performance requirements for IP multimedia and GPRS

TBD: To Be Determined. It is very important to get these TBD replaced with true value as soon as possible

NA: Not Applicable

| None: Not allowed

7 Requirements for Handover from GSM to UMTS

7.1 Operational Requirements

7.1.2 GSM bands

The standard shall support handover from any combination of GSM bands supported by the GSM standards.

7.2—Performance Requirements

~~The technical standards should ensure that it is possible to~~ During handover from GSM to UMTS, ~~in such a way that~~ temporary degradations shall be no greater ~~are no worse~~ than for GSM to GSM handovers.