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S1 STATUS REPORT

1 General Overview of Progress

TSG SA WG1 (S1 for short) has held two plenary meetings (**Quebec** in July, **Bernried** near Munich in September) and a number of ad-hoc or joint meetings since the last plenary of TSG SA. In Quebec a meeting of ETSI/SMG1 was also held, but in Bernried this was subsumed into the S1 meeting for practical convenience. The meetings have been extremely busy, focussing on completing Release 99 together with addressing feedback from other working groups and transporting the majority of the SMG1 specifications for GSM into 3GPP where these may be used as a basis for evolution. There has also been some tidying up of Release 98 items and a start on planning for Release 2000.

This has resulted in a higher than usual level of documentation from S1 for SA to approve, but much is editorial or of minor detail, although important to the completeness of Release 99. During the 3 day plenary in Bernried, S1 tackled nearly 300 documents, a record for this group. The vast majority of these appeared after the Thursday before the start of the meeting, giving little time for delegates to read them or the chairman and secretary to prepare. Through parallel sessions and long hours, we believe we tackled all (or almost all) inputs, but in the rush there is a risk of a lower quality of work than is normally demanded. On this occasion it was felt important to tackle all papers since there was so little time before the SA plenary and other groups need clear requirements from S1. Delegates are encouraged to submit their papers well in advance of future meetings to prevent a recurrence of this situation.

While most of the output of S1 has been correction or clarification to existing UMTS specifications, or transferring GSM ones, there are some new topics for approval. These stage 1 descriptions have all been worked closely with the other working groups affected so there should be no unexpected requirements suddenly appearing. This work is needed to meet the commercial aspirations of some operators for Release 99.

S1 expects that its work in the next period will concentrate on completing and corrections or clarifications to Release 99 and to planning for Release 2000. Key features of Release 2000 are planned to include service support for an IP architecture and increased harmonisation towards other standards. However, progress towards interworking with ANSI-41 core networks has been disappointing so far.

One of our vice-chairmen, David Cooper, has transferred companies and his new role

involves less work on standards, so he has resigned from S1. We thanked him for his excellent work and elected his successor by acclamation, Randolph Wohler of T1. Randolph will in particular assist the chairman by acting as an ambassador for S1 between the SDOs and for external relations.

September marked another change of face, with Roger Tarazi departing after more than two years of valuable service. We thanked him for his tireless support and were pleased to welcome him back as a delegate in Bernried! We wish him well in his future career. We are also delighted to welcome back his predecessor, Michael Clayton who works for the GSM Association and has now been seconded by them to support the work on services in 3GPP.

2 Summary of Inputs to SA

The details of the documents submitted are attached in Annex 1, but are summarised here for clarity. The outputs of the two plenaries of S1 have been combined – in a very few cases an output of the first meeting was revised in the second. Documents presented are clearly separated into the various releases to avoid confusion. Changes affecting more than one release are bundled together in a single document, but separate CRs are provided for each release.

A significant part of the work submitted to SA for approval is the detailed result of transfer of 02 series GSM specifications into 3GPP as 22.0xx series, approved in principle by SA and SMG at their last meetings.

2.1 Specifications

One specification is submitted to SA for **Information** and three for **Approval**, having been seen earlier by SA for information.

One specification is submitted to SA for **Information**:- 22.140 v 1.0.0 **Multi-Media Messaging** Stage 1 Description which has been prepared in conjunction with TSG T2 (SA-99431).

S1 has also sent a LS to S2 and T2 regarding support for Multi-Media Messaging, encouraging them to adopt as far as appropriate a VHE tool-based architecture.

Three specifications are submitted to SA for **Approval**, having been seen earlier by SA for information:-

22.094 v 2.0.0, **Follow-Me** stage 1 description (SA-99432);

22.135 v 2.1.0, **Multicall** stage 1 description (SA-99433); and,

22.038 v 2.0.0, **SIM application toolkit** (SAT) stage 1 description (SA-99434).

Follow-Me is intended particularly for Railway applications (UIC) and we note the guidance from S3 that the level of security provided makes it less suitable for public cellular service.

So far, SAT stage 1 covers description for SIM only. The document needs to be updated to make it applicable to 3GPP. On a high level, S1 has placed requirements for USIM support for SAT.

2.2 Change Requests

S1 in this period has generated an unprecedented number of change requests. In general, they reflect a series of clarifications and corrections, especially to ensure a coherent Release 99. Due to the high number of these changes, it is proposed that a detailed presentation is given only for those of strategic interest although any of them may be discussed in detail should a delegate request this.

Change requests to GSM specifications that are also transferred into 3GPP are included, even if they impact earlier releases and in these cases, the CR will be shown subsequently to SMG plenary for information. Clearly, changes affecting Release 99 in the 22.xxx series are the responsibility of SA, but those relating to 22.0xx will also be shown to SMG. Any change to an 02.xx specification not transferred to 3GPP is considered out of scope of SA plenary and will be submitted to SMG for approval.

2.2.1 Emergency call

TSG-SA#4 approved S1 requirements concerning Emergency Calls. S1 would like to ensure that relevant WGs are aware of requirements and that implementation of requirements is ongoing.

CR 022 in document SA-99435 includes the latest S1 CR to 22.101 giving further clarification to this issue. Note that although 02.03 and 22.030 have not yet been updated, these requirements are applicable to both GSM and UMTS from release '99.

See also chapter 6. on this issue.

2.2.2 Handover

S1 was able to sort almost all issues related to handovers during previous meeting. GPRS 'handover' (as raised by S2) to GPRS R97 core network requirements will be defined for non-real time best effort services. Handover of real time PS services to GPRS R99 is out of the scope of UMTS R99 phase 1 and will be considered in subsequent phases.

S1 agreed to a to CR 22.129 on Handover requirements in tdoc S1 565/99 CR 007. However, one clause was *objected to* by France Telecom and Vodafone, but they agreed to let the CR proceed in order not to lose the rest of that valuable contribution. The clause objected to is:

"Subscriber Inter-PLMN handover Preference

The standards shall not preclude the backward compatible introduction of technical means which enable inter-PLMN handover based on subscriber's preferred PLMN. A situation is illustrated in Annex A which explains the background to this service requirement. Since this requirement is motivated by particular circumstances which may not exist in every PLMN, its implementation within a given PLMN should be optional."

Document SA-99436 contains:

S1-99500	22.129	002	R99	SMS handover requirement clarification
S1-99516	22.129	003	R99	GSM UMTS Handover
S1-99533	22.129	004	R99	Revised terminology to 22.129
S1-99540	22.129	005	R99	For R99 there can only be one target PLMN for HO in addition to the serving PLMN for R99 in a given geographical area.

S1-99541	22.129	006	R99	from 489 - Clarification of the scope of mandatory requirements
S1-99565	22.129	007	R99	Removes all non-R99 requirements, by changing them into Cross phase compatibility requirements which apply to R99.

2.2.3 Location services (LCS)

S1 has made good progress with LCS, incorporating all the planned features and making it applicable to UMTS as well as GSM.

S1-99800	02.71	A001	R98	Changes to the LCS stage 1 to add support for mobile originated positioning requests, and velocity as a service parameter. U.S. specific Emergency Services accuracy requirements removed.
S1-99831	22.071	001	R99	Changes to the LCS stage 1 to add support for mobile originated positioning requests, and velocity as a service parameter. U.S. specific Emergency Services accuracy requirements removed.
S1-99832r1	22.071	002	R99	LCS UMTS requirements
S1-99833	22.071	003	R99	LCS accuracy clarifications

2.2.4 SIM/USIM (SAT)

S1 has clarified requirements on multiple USIMs.

S1 rejected a proposed change request to SIM Application Toolkit stage 1 from France Telecom, but the meeting agreed that this should be brought to the attention of SA. The change had proposed to *remove* the requirement: **'It shall be possible for the user to deactivate the SIM application environment'**.

S1-99847	22.030	001	R99	Indication to user in case of an error during Data Download (rev 715)
S1-99736	22.100	022	R99	Support of SAT by USIM
S1-99816	22.101	024	R99	Clarification on the usage on 2G SIM and 3G USIM
S1-99737	22.101	025	R99	Support of SAT by USIM

2.2.5 GPRS and Packet Data services

Changes to clarify class B operation, addition of Operator Determined Barring and notification of IP address are presented in documents 440 and 441.

S1-99790	02.60	A021	R97	Class B mode of operation
S1-99791	02.60	A022	R98	Class B mode of operation
S1-99792	22.060	001	R99	Class B mode of operation
S1-99850	22.041	001	R99	Addition of explicit requirements for Packet Oriented Services (Rev 803)
S1-99802	22.060	003	R99	Introduction of Barring for GPRS.
S1-99841	22.060	002	R99	The function that gives the notification of the server IP address from the GPRS network to the subscriber.

2.2.6 VHE

VHE is now more stable for Release 99 with these changes which can be found in SA document 442.

S1-99809	22.121	002	R99	Virtual Home Environment.
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S1-99845	22.121	003	R99	Addition of IP4 Addressing
S1-99535	22.121	004	R99	Charging capabilities
S1-99746	22.105	015	R99	Service Capabilities and Service Capabilities Features.

2.2.7 CAMEL

Although S1 has a complete requirement for CAMEL 3 in 22.078, it is possible that other technical bodies in 3GPP may be unable to support all of these features in Release 99. In this case some features currently described may be held over to CAMEL 4 in Release 2000. The following CRs may be found in SA document 443.

1-99-268	22.078	001	R99	Camel control of packet switched MO SMS
1-99-272	22.078	002	R99	Removal Initial Service Events in case of Unsuccessful MO call establishment
1-99-290	22.078	003	R99	Work Item Camel Phase 3 CSE Related overload control
1-99-333	22.078	004	R99	Referenced by LS in 344
1-99-338	22.078	005	R99	Inclusion of Service Key in Mobility Management event notifications + editorial modifications
1-99-339	22.078	006	R99	Clarification the behaviour when network provided dialled services are used.
1-99-341	22.078	007	R99	279 > 341
1-99-342	22.078	008	R99	284 > 342
1-99-345	22.078	009	R99	336 > 345 CR Rev Jeremy
S1-99590	22.078	010	R99	Editorial update of references for GSM/3GPP use
S1-99594	22.078	011	R99	Proposed CR for CAMEL3 interworking with GPRS; Change of position
S1-99596	22.078	012	R99	Proposed CR for CAMEL3 DTMF Mid-Call corrections and clarifications
S1-99597	22.078	013	R99	Proposed CR for CAMEL3 clean-up of IPLMN and VPLMN references
S1-99598	22.078	014	R99	CR Defining successful SM submission to SMSC as EDP
S1-99673	22.078	015	R99	CR SAT/MExE interworking
S1-99675	22.078	016	R99	Correction Annex A.2; Information sent by the CSE
S1-99677	22.078	017	R99	Correction on GPRS handling (Version 2)
S1-99681	22.078	018	R99	Short Message Submission Handling (version2)
S1-99684	22.078	019	R99	CR O-CSI Information
S1-99686	22.078	020	R99	CR Free formatted information
S1-99689	22.078	021	R99	Defining Successful SM submission and Unsuccessful SM submission as EDP-N and EDP-R.
S1-99770	22.078	022	R99	Proposed CR for CAMEL3 corrections to new Trigger Detection Points (TDP) (2nd version)
S1-99771	22.078	023	R99	CR CSI description
S1-99773	22.078	024	R99	Proposed CR for CAMEL3 corrections and clarifications to dialled services (subscribed & serving network)
S1-99774	22.078	025	R99	Charging clarifications for MO-SMS (New Version)
S1-99775	22.078	026	R99	Proposed CR for CAMEL3 Call Forwarding and new TDP interworking (2nd Version)
S1-99776	22.078	027	R99	CLI modification
S1-99777	22.078	028	R99	CCBS Service interaction
S1-99772	22.078	029	R99	CR Network based CAMEL service invocation
1-99-335	02.78	A041	R97	Introduction of a "Health Warning" on type of numbers sent by the mobile other than "unknown" or "international" CR

2.2.8 Editorial changes

A series of editorial CR's has been produced together with MCC experts in order to make the 02 series specifications applicable to both GSM and UMTS when needed, (references, terminology, etc) (SA-99444).

Difficult specifications that need major re-writing are 22.011, 22.030, 22.034, 22.043 and 22.060. For some of these a volunteer has been identified and the work is progressing.

1-99-319	02.60	A023	R97	R97 - GPRS Stage 1
1-99-351	02.60	A024	R98	R98 - GPRS Stage 1 removal of example
S1-99608	22.002	001	R99	Editorial update of references for GSM/3GPP use.
S1-99609	22.004	001	R99	Editorial update of references for GSM/3GPP use.
S1-99610	22.011	001	R99	Editorial update of references for GSM/3GPP use.
S1-99611	22.016	001	R99	Editorial update of references for GSM/3GPP use.
S1-99612	22.022	001	R99	Editorial update of references for GSM/3GPP use.
S1-99613	22.024	001	R99	Editorial update of references for GSM/3GPP use.
S1-99614	22.030	001	R99	Editorial update of references for GSM/3GPP use.
S1-99615	22.034	001	R99	Editorial update of references for GSM/3GPP use.
S1-99616	22.041	001	R99	Editorial update of references for GSM/3GPP use.
S1-99617	22.042	001	R99	Editorial update of references for GSM/3GPP use.
S1-99618	22.043	001	R99	Editorial update of references for GSM/3GPP use.
S1-99619	22.057	001	R99	Editorial update of references for GSM/3GPP use.
S1-99620	22.060	001	R99	Editorial update of references for GSM/3GPP use.
S1-99665	22.060	005	R99	R99 - GPRS Stage 1 rel 99 Editorial corrections (revised 1-99-352)
S1-99621	22.066	001	R99	Editorial update of references for GSM/3GPP use.
S1-99622	22.067	001	R99	Editorial update of references for GSM/3GPP use.
S1-99623	22.068	001	R99	Editorial update of references for GSM/3GPP use.
S1-99624	22.069	001	R99	Editorial update of references for GSM/3GPP use.
S1-99625	22.071	004	R99	Editorial update of references for GSM/3GPP use.
S1-99626	22.072	001	R99	Editorial update of references for GSM/3GPP use.
S1-99627	22.079	001	R99	Editorial update of references for GSM/3GPP use.
S1-99628	22.081	001	R99	Editorial update of references for GSM/3GPP use.
S1-99629	22.082	001	R99	Editorial update of references for GSM/3GPP use.
S1-99630	22.083	001	R99	Editorial update of references for GSM/3GPP use.
S1-99631	22.084	001	R99	Editorial update of references for GSM/3GPP use.
S1-99632	22.085	001	R99	Editorial update of references for GSM/3GPP use.
S1-99633	22.086	001	R99	Editorial update of references for GSM/3GPP use.
S1-99634	22.087	001	R99	Editorial update of references for GSM/3GPP use.
S1-99635	22.088	001	R99	Editorial update of references for GSM/3GPP use.
S1-99636	22.090	001	R99	Editorial update of references for GSM/3GPP use.
S1-99637	22.091	001	R99	Editorial update of references for GSM/3GPP use.
S1-99638	22.093	001	R99	Editorial update of references for GSM/3GPP use.
S1-99639	22.096	001	R99	Editorial update of references for GSM/3GPP use.
S1-99640	22.097	001	R99	Editorial update of references for GSM/3GPP use.
S1-99544	22.100	023	R99	Editorial changes related to terminology
S1-99382	22.100	022	R99	Editorial Changes to account for the new specification numbering scheme
S1-99641	22.100	024	R99	Editorial update of references for GSM/3GPP use.
S1-99481	22.105	016	R99	Editorial Change to 22.105
S1-99761r1	22.105	017	R99	Correction of nomenclature (rev1)
S1-99548	22.105	018	R99	CR for 22.105 removing the notes below the QoS tables

2.2.9 Others

A number of other CRs to various specifications are presented below:

SA Doc No.	S1 Doc No	Spec.	CR No	Rel	Title
445/99	S1-99649	02.43	A002	R98	Maximum number of LSAs allowed for a subscriber.
446/99	S1-99659	22.002	002	R99	PIAFS
447/99	S1-99744r1	22.030	002	R99	Data cleanup
447/99	S1-99664	22.030	003	R99	Revised CR on ACR (Revised 1-99-323)
448/99	S1-99706	22.034	002	R99	Channel coding asymmetry for ECSD

449/99	S1-99854	22.083	002	R99	Multicall (rev787)
450/99	S1-99788	22.086	002	R99	Multicall
451/99	S1-99842	22.097	002	R99	MSP Phase 2
452/99	S1-99856	22.100	025	R99	Vocabulary and rel 99 alignment
452/99	S1-99538	22.100	024	R99	To propose the organisation of standardisation for future releases.
453/99	S1-99763	22.105	016	R99	Removal of material not in release 99 (Wide band speech)
453/99	S1-99547	22.105	017	R99	CR for 22.105 Class of Bearers
454/99	S1-99817	22.115	002	R99	Charging
454/99	S1-99762	22.115	003	R99	Addition of Charging for Volume of Data and some edits.
455/99	S1-99751	22.975	002	R99	Numbering principles

2.3 Liaison Statements to External Bodies

S1 sent a liaison to GAIT regarding ANSI-41/UMTS Services Interworking, proposing a co-operative working relationship.

2.4 Other Aspects

- Good progress has been made on the following topics by means of ad-hocs, including: Camel 3, Multi-Media Messaging Service, Multi-call, VHE and Release 2000.
- S1 has proposed that S3 take over the responsibility for 22.022 (was GSM 02.22) on Personalisation of the Mobile Equipment since most of the text gives detailed technical implementation of the security for this feature.
- The report of the joint S1/S2 meeting raised the topic of who should maintain the 01 series, especially GSM 01.04 (Abbreviations and Acronyms). This is currently the task of MCC, not SMG1 or S1. However, S1 will maintain a report on vocabulary, with a new rapporteur, Michele Zarri of One2One.
- Work on Release 2000 was enhanced by an interesting presentation from BT on their vision for Multi-media and IP.
- It was noted that S1 proposes that 22.925 should not be maintained, but marked as such as recently approved by ETSI/OCG. This is important because S1 had received an LS from RAN3 on Delay Budgets, based on out of date figures.
- The S1/S2 joint meeting concluded that there is no possibility to have GPRS point-to multipoint to rel 99.
- S1 will update the list of rapporteurs, planned ad-hoc meetings and email lists off-line, since there was insufficient time in the last meeting to perform these tasks.

3 Release 99

Annex 2 contains the list of all specifications in the 22.xxx range which will be part of Release 99. 22.100 identifies what is contained in this release for UMTS and acts as an index towards the other specifications.

4 New Work Items

One new Work Item is proposed for SA approval on:- '**MS and Network-Resident Execution Environments (MS/N-RExE)**' (SA document 470).

It was agreed not to proceed with the feasibility study on **MS in protected zone**.

5 Release 2000

S1 has just started its work on rel 2000. There are still a lot of things to do in order to decide even the level of services standardisation for all IP scenarios. S1's initial views are presented in slide set 456 (s1 825). S1 decided to form an ad hoc group to focus on All IP service aspects.

6 Critical items for SA Decision

One change request from DoCoMo proved controversial since it appeared to be in anticipation of a possible regulatory requirement. However, a number of delegates were opposed to this so the question was referred to SA for decision. This is in CR to 22.101 number 023 in tdoc 457.

7 Outlook for future meetings

Although it is anticipated that the great majority of work for Release 99 is now stable, there is a likely continuation of further CRs for clarification/correction or to reflect certain aspects that prove too difficult for other groups to complete during the time available. These may therefore be either simplified or delayed until Release 2000. No new requirements are anticipated for Release 99. One major work item for rel 99 will be clarification of CS domain and PS domain requirements and relevant alignment requirements in 02.01, 02.03, 22.002, 22.101 and 22.105. It's seen that all of these shall be made applicable to both GSM and UMTS.

8 Planned meetings of S1

S1#6	29 November – 3 December 1999	San Diego
S1#7	7 – 11 February 2000	Host Invited
S1#8	3 – 7 April 2000	Host Invited
S1#9	17 – 21 July 2000	Host Invited
S1#10	13 – 17 November 2000	Host Invited

The chairman would like to express particular thanks to Tommi Kokkola (vice-chairman) and the secretaries, earlier Roger Tarazi and now Michael Clayton, in preparing the information for this report.

Alan Cox

Annex 2

Spec. No.	Name
22.002	Bearer Services Supported by a GSM PLMN
22.004	General on Supplementary Services
22.011	Service Accessibility
22.016	International Mobile Equipment Identities (IMEI)
22.022	Personalisation of GSM ME Mobile functionality specification - Stage 1
22.024	Description of Charge Advice Information (CAI)
22.030	Man-Machine Interface (MMI) of the Mobile Station (MS)
22.034	High Speed Circuit Switched Data (HSCSD) - Stage 1
22.038	SIM application toolkit (SAT); Stage 1
22.041	Operator Determined Call Barring
22.042	Network Identity and Time Zone (NITZ), stage 1
22.043	Support of Localised Service Area (SoLSA) - Stage 1
22.057	Mobile Station Application Execution Environment (MExE); Stage 1
22.060	General Packet Radio Service (GPRS); Stage 1
22.066	Support of Mobile Number Portability (MNP); Stage 1
22.067	Priority Set-up Service; Stage 1(ASCI spec)
22.068	Voice Group Call Service (VGCS); Stage 1(ASCI spec)
22.069	Voice Broadcast Service (VBS); Stage 1(ASCI spec)
22.071	Location Services (LCS); Stage 1
22.072	Call Deflection (CD); Stage 1
22.078	CAMEL; Stage 1
22.079	Support of Optimal Routing; Stage 1
22.081	Line Identification Supplementary Services; Stage 1
22.082	Call Forwarding (CF) Supplementary Services; Stage 1
22.083	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1
22.084	MultiParty (MPTY) Supplementary Service; Stage 1
22.085	Closed User Group (CUG) Supplementary Services; Stage 1
22.086	Advice of Charge (AoC) Supplementary Services; Stage 1
22.087	User-to-user signalling (UUS); Stage 1
22.088	Call Barring (CB) Supplementary Services; Stage 1
22.090	Unstructured Supplementary Service Data (USSD); Stage 1
22.091	Explicit Call Transfer (ECT) Supplementary Service; Stage 1
22.093	Call Completion to Busy Subscriber (CCBS); Stage 1
22.094	Follow Me; Stage 1
22.096	Calling Name Presentation (CNAP); Stage 1
22.097	Multiple Subscriber Profile (MSP); Stage 1
22.100	UMTS phase 1 capabilities
22.101	UMTS service principles
22.105	Services and service capabilities
22.115	Service aspects: charging and billing
22.121	Virtual home environment
22.129	Handover requirements between UMTS and GSM or other radio systems
22.135	Multicall
22.960	Mobile multimedia services including mobile intranet and internet services
22.971	Automatic establishment of roaming relations
22.975	Advanced addressing