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Title: Report to PCG#02 on work in TSG-SA

Agenda item: 5

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Decision	X
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1 Main events since last meeting

In the period March 1999 (PCG#01) to July 1999 (PCG#02) TSG-SA have held two TSG-SA plenary meetings, TSG-SA#03 in Yokohama, Japan 26 – 28 April 1999 and TSG-SA#04 in Miami, Florida, United States 21 - 23 June 1999. Further to TSG-SA plenaries, a number of meetings of the TSG-SA working groups have taken place. In addition, several of the TSG-SA working groups have participated in a joint workshop on handover and cell selection which spanned working groups from all of the TSGs.

2 Technical work in TSG-SA

The work of TSG-SA consists of three main parts: technical work within TSG-SA, technical co-ordination between the TSGs and project management. In the period TSG-SA have been working in all three areas. The technical work within TSG-SA is organised in 5 working groups dealing with the service aspects, architecture, security, codec aspects and telecom management.

2.1 Work related to Service Aspects

The service requirements and associated stage 1 documentation for release '99 are now almost completed and TSG-SA WG1 (S1) are now starting to analyse the requirements for the next releases. The requirements are now being studied and implemented into the detailed technical specifications by other groups, it is the expectation that this work will cause the need for clarifications and adjustment of the requirements and the stage 1 documentation. However, this is an expected and necessary part of the service related work. In order to speed up this feedback process for the complicated area of handover and cell selection TSG-SA#03 decided to organise a workshop on the subject. This workshop took place 9 – 10 June 1999, with participation of members from working groups of all of TSGs. The workshop successfully reviewed the stage 1 specification for handover and S1 is expected to update the specification at their next meeting. This workshop also allowed the experts from the different areas the possibility of getting a common baseline understanding of the different concepts and the potential problem areas.

The problem with regional variation in allocation of emergency numbers has caused some discussions and additional work. However, a general solution handling the regional variation in a global manner have been found and included in the specifications.

2.2 Architecture related work

Already at TSG-SA#02 in March 1999, it was clear that system architecture work of TSG-SA WG2 (S2) was one of the bottlenecks on the way to release 99. This lead TSG-SA to request is members to contribute towards completion of the release '99 architecture work. At TSG-SA#03 key architecture documents was still not completed. In order not to delay the work of TSG-CN it was agreed that S2 should forward the requirements imposed on the core network to TSG-CN by the end of May 1999. S2 did forward the architectural documents to TSG-CN, but when the documents were scrutinised at TSG-SA#04 it became evident that a number of key issues still were open. During TSG-SA#04 an ad-hoc group was formed to analyse the issues and list the issues which needed to be resolved urgently. Based on the result of the ad-hoc group TSG-SA tasked S2 to resolve the issues as soon as possible preferable before end July and no later than end August. In addition, the chairman of S2 was requested to distribute a status report on the

progress of the work to all the TSG reflectors after each meeting of S2.

In order to get a better cross project co-ordination a number of work area oriented ad-hoc groups have been established in S2. These ad-hoc groups are to provide cross project technical co-ordination as well as to create and follow-up on project plans for the work area under their responsibility.

2.3 Security related work

The security architecture specification is now completed and the affected groups are reviewing the specification. TSG-SA WG3 (S3) is then to consider the feed-back and perform any necessary revisions to the security architecture. Further S3 have listed the security features found necessary for release. It has been agreed, that TSG-CN and S3 together with the relevant project co-ordination ad-hoc of S2 will review the feasibility of implementing the different features in Release 99 and establish a revised priority list and project plan for the security issues.

During 3GPP TSG-SA #3 TSG-SA discussed the method for acquiring cryptographic algorithms for 3G systems (PCG#2(99)6). TSG-SA agreed that TSG SA WG3 would create the algorithm requirements specifications. These requirements were completed and approved at TSG-SA#04. The requirements will be passed to ETSI SAGE as an algorithm design group for design, or selection, of the algorithms, followed by a commissioned, closed evaluation of the algorithms. This work should finally end in the production of the 3GPP algorithm specifications. It was further agreed that the algorithm specification would then be made available for public evaluation. Part of the public evaluation, should run in parallel with the implementation phase, due to time scale requirements. It is the understanding of TSG-SA that this process was questioned at the Organisational Partners meeting 27-28 May 1999. Further it should be noted that it is necessary to pay for the design and evaluation work of the design group, the cost is currently estimated to 330 000 Euro (PCG#2(99)7). TSG-SA has noted that the availability of the ciphering algorithm is on the critical path for the project. **Consequently, the PCG is asked to arrange for the funding and decide on the ownership and handling of the algorithm.** In order, not to unnecessarily delay implementations TSG-SA recommends that arrangements are provided to allow manufacturers to obtain the algorithm for implementation purposes during the evaluation phase.

The cross 2G-3G SIM-USIM compatibility and handling has been subject of intense discussions in the period. The main problem being the desire from a number of members of having the possibility of using 2G cards (SIM only) in 3G terminals and networks, knowing that this would not allow a 3G network to use the new and improved security features which requires a 3G card (USIM). As a compromise, TSG-SA has agreed to design the system such that the 2G-card (SIM) can be used in a 3G terminal in a 3G network. However, the operator of a 3G network will be provided with the technical possibility of rejecting access to the 3G access portion of the network when a 2G card (SIM) is used.

2.4 Codec related work

The codec work in TSG-SA WG4 (S4) are progressing well and the basic specifications for the speech codec have either been approved by TSG-SA or been presented to TSG-SA for information with expected approval date at the next meeting of TSG-SA. This speech codec is the same as the AMR codec for GSM, but it should be noted that due to the different radio access

technology the radio related adaptation algorithm can not be reused from GSM. Also due to the different radio technology it has been decided to perform supplementary characterisation tests in order to evaluate the quality under 3G error conditions (UTRA FDD and UTRA TDD). TSG-SA believes that the required experiments could be compiled in two subjective listening tests performed in 2 different languages. This supplementary characterisation effort is estimated to require a funding of 55 (PCG#2(99)13). ***The PCG is requested to provide the 55 kEuro necessary for speech codec characterisation.***

For circuit switched multi media services, it has been decided to base these on H.324 with the AMR codec as the default speech codec. At TSG-SA level high interest in usage of H.323 for packet switched multi media applications has been expressed. Despite this interest S4 have so far only recieved very few contributions related to H.323.

2.5 Work related to telecom management

The timing of release 99 for the telecom management related specifications were discussed at TSG-SA#04. It was noted that TSG-SA wishes TSG-SA WG5 (S5) to complete the specifications by December 1999 as for the rest of release 99. However, it is understood that parts of the telecom management specifications builds on the core specifications and can therefore not be fully completed before the core specifications are completed. On this background TSG-SA found it acceptable that a delay of 3 month compared to the December 1999 can occur for some telecom management specifications. ***The PCG is requested to take note of this potential delay of some telecom management specifications.***

TSG-SA noted the importance of close corporation and the need for feedback from the operator side. Especially taking the amount of work and the associated time scales into account. On this back ground TSG-SA was very pleased to see the commitment from the GSM Association to actively contribute in the area of telecom management.

2.6 Summary of new work items in TSG-SA

TSG-SA have in the period approved the following new work items:

- 3G Audio-Visual Terminal Characteristics
- Multicall
- UMTS Interworking with ANSI-41 networks
- 3G System Fault Management
- 3G Charging Management
- Performance Management
- 3G System Configuration Management

3 Technical co-ordination

3.1 Issues related TSG-CN

At TSG-SA#03 it was agreed that TSG-SA should forward any requirements imposed on the core network to TSG-CN by the end of May 1999. As reported above S2 did forward the architectural documents to TSG-CN, but when the documents were scrutinised at TSG-SA#04 it became evident that a number of key issues still were open and corrective means have been established to minimise the consequences.

TSG-CN reported to TSG-SA about the discussions in TSG-CN in relation to the question of standardising the GLR. TSG-SA noted the discussions, which had taken place and indicated that it was preferable to try to find a consensus potentially based on a compromise amongst the involved parties. From the presented arguments TSG-SA concluded that the resistance against standardising the GLR came from those, who did not see a need to introduce the GLR in their networks and feared that introduction of the GLR could cause interoperability problems. On this background, TSG-SA recommended to TSG-CN to adopt the GLR as a work item with the condition that the GLR should be standardised in such a way that it had no impact on those networks not utilising the feature. This means that the fact that one operator uses the GLR should not require any update of existing HLRs for those networks whose customers are roaming into the network utilising the GLR.

During the TSG-SA#04 the question of how ITU could reference the work of 3GPP was discussed. There was a broad consensus on the fact that it was preferable to have ITU to reference the specifications resulting from the work in 3GPP and not to copy the text into the ITU recommendations. However, there are formal obstacles to incorporating these references since the 3GPP is not a legal entity nor is it an organisation formally recognised by ITU. **TSG-SA recommends the PCG to consider to recommend to the participating SDO's that they send either joint or individual liaisons to ITU-R TG 8/1 and ITU-T SG11 supporting the use of directly referencing 3GPP specifications by the ITU.** Additional information is provided in (PCG#2(99)14).

3.2 Issues related to TSG-RAN

The main issue in this period related to the co-operation between TSG-SA and TSG-RAN is the work related to the proposal received on harmonisation between CDMA based IMT-2000 proposals, better known as the "OHG agreement" (PCG#2(99)25). TSG-SA has noted work and the decisions of TSG-RAN in relation hereto (PCG#2(99)15). TSG-SA have found no problems with the technical modifications adopted (new chip rate and pilot structure). Further, TSG-SA found the considerations on impact on time schedule well founded and do therefore not fear that these changes will impact the overall time schedule.

TSG-SA has noted the preliminary analysis of hooks and extensions necessary to allow for utilisation of UTRAN with ANSI-41 core networks. TSG-SA agrees with TSG-RAN that the best way forward would be to hold a workshop in order to identify the necessary hooks and extension. **TSG-SA recommends that relevant parties outside the 3GPP are invited to this workshop, to ensure participation of sufficient expertise for a speedily progress of the matter.**

One of the items still lacking completion in TSG-SA of high importance for TSG-RAN is the definition and requirements for the QoS of bearers. TSG-SA is aware of this and expects to have clarified the last open issues between S1 and S2 by mid July 1999 and are planning to forward the results directly from the TSG-SA working groups to the relevant TSG-RAN working groups.

From a TSG-SA point of view the main concern in relation to TSG-RAN is the very limited support which currently can be provided by the support team to TSG-RAN. This is considered to be very critical due to the high number of new specifications created by TSG-RAN which are coming under change control. If sufficient support can not be provided there is a high risk of errors and delays, as TSG-RAN would have difficulties in obtaining the latest versions of documents and keep track of change requests. ***It is recommended that the PCG take action to resolve this problem.***

3.3 Co-ordination with TSG-T

Based on input from TSG-T, TSG-SA has noted that USIM application(s) require identifiers on the UICC. TSG-T had identified three scenarios for management of these identifiers:

1. one of the 3GPP OPs applies for a RID (Registered Application Provider Identifier) and administers the list of AIDs for 3GPP (possibly ETSI which already has a RID);
2. 3GPP as an organisation in its own right applies for a RID, and 3GPP or one of the partners maintains the list of AIDs for 3GPP;
3. each partner independently applies for a RID and T3 specifies the structure of the PIX (Proprietary application identifier extension) in a 3GPP document, which applies to all Partners.

TSG-SA is in agreement with TSG-T in recommending to the PCG to adopt the second scenario where 3GPP as an organisation in its own rights applies for RID. If this is accepted TSG-T should create a document similar to the ETSI Guide EG 201 220 for the structure and maintenance of AIDs.

TSG-SA has noted the TSG-T identified need for USIM testing and the associated need for funding of 9 – 12 man months work, corresponding to 156 kEuro (PCG#2(99)16). TSG-SA agrees that this work is needed and that it is unrealistic to expect it to be based on the volunteer work within the committees. ***Therefore TSG-SA invites the PCG to consider funding of this work.***

TSG-T reported to TSG-SA that the detailed protocol and signalling test specification for 3GPP MS will be specified in a formal language, TTCN (Tree and Tabular Combined Notation). However, writing a rigorous TTCN test specification is not an easy thing and needs skilled experts. Voluntary contributions have so far been limited. TSG-T are making their best efforts so that nearly 10% of TTCN test cases, those with the highest priority, will be contributed by the 3GPP members on a voluntary basis for the release 99. However, a large number of the remaining test cases are still to be specified. This problem can be handled installing a team to write the missing TTCN test cases. This is estimated to require funding of 78 man month, corresponding to 1014 kEuro (PCG#2(99)17). ***TSG-SA invites the PCG to consider funding of this work.***

In relation to the discussion of the testing the questions of global type approval and global circulation was raised by delegates. TSG-SA concluded that these matters are important, but regulatory issues are out of the scope of 3GPP. The task of TSG-T being to define a super set of tests from which local/regional harmonised standards can be derived depending on the local regulatory requirements.

4 Summary of requirements for funding

In the period TSG-SA have noted the following request for funding in addition to the earlier planned:

Development of ciphering algorithm	330 000 Euro
AMR codec characterisation	55 000 Euro
SIM test specification (9 – 12 man month)	156 000 Euro
TTCN test cases (78 man month over two years)	1 014 000 Euro

5 Release 99 and beyond

The content of release 99 are now being stabilised and the support team are working on providing clear listings of the work items contained in release 99 and on identifying which are relevant for 3G only, 3G and SMG and SMG only. First draft listings have been reviewed by TSG-SA, but some additional work is required before the lists can be considered as fully covering the issues.

Based on input from members TSG-SA has initiated discussions on the releases after release 99, it has been agreed to set the target for the next release to December 2000. Furthermore, a way forward for identifying the content of this next release (release 00) and establishing a work plan have been agreed. S1 have been tasked to create a list of services/service capabilities and present it back to TSG-SA as a continuous exercise. Based on the very broad support for introduction of an all IP based network, S2 has been tasked to identify and plan all the necessary work to specify this. This should be done keeping in mind the need for support of all existing and new services and capabilities. Furthermore, an evolution plan with backward compatibility is to be ensured. S1 and S2 were tasked to come back with the requested material at TSG-SA#05.

6 General Management issues

TSG-SA have in the period, with support from the support team, introduced a status list which is intended to provide an exact status of all specifications as of the end of the round of the TSG meetings (i.e. the end of TSG-SA meetings). In addition all the specification corresponding to the status list (same version) are accessible on a separate directory on the 3GPP FTP site. This concept has been well received by the members, however the support team still has problems in obtaining all the correct draft specifications (version <3.0.0).

Based on the practical experience and the discussions in the TSGs TSG-SA have agreed some updates to the working method document (3G TR 21.900) and the TSG-SA approved CRs (PCG#2(99)19&20) are presented to PCG#2 for final approval. Recognising that the Working

Methods document is a practical tool for general specifications management within the 3GPP Support group and the TSGs, ***the PCG is invited to consider to hand-over the responsibility for the maintenance of this document to TSG-SA.*** If accepted TSG-SA would then advise PCG of all TSG-SA approved changes in order that the PCG can ensure continued alignment with the 3GPP Working Procedures

Based on the practical experience it has been proposed that 3GPP should take over full responsibility from SMG for a number of documents relevant for 3GPP. TSG-SA agreed with the principle of the proposal and believe it should be implemented subject to the agreement of other impacted groups. ETSI TC SMG have subsequently agreed a modified version of this proposal which is presented for information (PCG#2(99)26).