3GPP TSG S2 Report

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TSG-S2 Status Report at TSG-SA#6 Meeting

Agenda point 5.2.1 15-17.12.1999

Events since last TSG-SA plenary

- SA2 has met twice:
  - ⇨SA2#9: 25th to 29th of October, hosted by a consortium of UK companies at London, UK
  - ⇨SA2#10: 29th of November to 3rd of December, hosted by NEC at Abiko, Japan
- Activities of the S2 ad-hocs
  - ⇨The MIP ad-hoc has successfully finished its activities by creating the TR 23.923, presented for approval in SP-99536. The next step is to incorporate the results of this TR in the TSs, in particular in 23.060.
- Lot of work handled by e-mail (monitored by Mr. Hiramatsu, TSG-S2 Vice- Chairman)

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SA2 statistics

- The number of participant at each meeting is higher than 80.
- In addition, more than 500 people are registered on the SA2 e-mail list (on December 1999).
- Since SA plenary #5, SA2 has handled 490 temporary documents
- In 1999, SA2 has handled around 1550 tdocs
- Liaison Statements since previous TSG-SA Plenary:
  - SA2 has received 82 LSs
  - SA2 has sent 46 LSs

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Main technical discussions and decisions for R99 since SA#5

- Lot of refinements on 23.060
  - **Including clarifications on:**
    - ⇨ **SRNS relocation mechanism**
    - ⇨ **charging record recollection mechanism**
- Lot of progress on QoS handling, including mapping of QoS Parameters between GPRS R97/98 and UMTS R99 (to be used at inter-system handover)
- In addition, dedicated drafting meetings on:
  - **CBS Stage 2**
  - **LCS Stage 2**
  - **VHE/OSA Stage 2**

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Involvement of SA2/SMG12 in GSM matters

- SMG12 responsible for 03.56 and 03.73: no action on 03.56; CRs on 03.73 approved by SMG#30
- SA2 responsible for 03.60 and 23.060: CRs presented to SA#6
- SMG12 responsible for 03.71, SA2 responsible for 23.171
- SA2 responsible for 03.32 and 23.032 (no action on them)
- For information: 03.03 and 23.003 are under TSG_CN responsibility.

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Work co-ordination of 3GPP

- The following slides contain a short report of the six **Inter-Group Co-ordination ad-hoc (IGCs)**:
  - **Bearer Services and QoS (Oscar-Lopez Torres, T-Mobil)**
  - **GSM/UMTS Interoperation and Mobility Management (Francois Courau, Alcatel)**
  - **LCS and CBS (Jan Kåll, Nokia and Martin Guntermann, Mannesman)**
  - **Packet Architecture and Circuit Architecture (Ulrich Dropmann, Siemens)**
  - **Security (Chris Pudney, Vodafone)**
  - **Services and Service platforms (Rob Scmersel, Ericsson)**

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Bearer Services and QoS (Oscar-Lopez Torres, T-Mobil)

- **Involved 3GPP WGs: SA1, SA2, RAN1, RAN2, RAN3, CN1, CN2, CN3, and T2**
- **TS 23.107, QoS Architecture, was Approved on Week 43**
- **TS 23.107 was sent to the involved WGs for comments**
- **The WGs Need to Check the Value Ranges of QoS Parameters in 23.107, to Assess Realistic Target Values**
- **The QoS Parameter Mapping Work Has Started in SA2**
- **SA2 Encourages WGs: SA1, SA4, RAN3, and T2 to Actively Participate in the Parameter Mapping for Rel. 00**
- **The QoS Architecture for Rel. 00 need to Cover Both, the Circuit and the Packet Switched Domain**

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- GSM/UMTS Interoperation and Mobility Management (Francois Courau, Alcatel)
  - SMG2: Work has started work estimated to be completed for February 00
  - RAN: Work has started. Completion expected for March 00
  - CN: Work has started completion date expected March 00
  - S1: Work completed

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- **LCS (Jan Kåll, Nokia)**
  - The project plan is based on inputs from: S2, S5, R2, R3
    No reply so far from: S1, S3
- **UMTS-LCS specifications in Release 99**
  - Common Stage 1 for UMTS and GSM (preliminary UMTS content), TS 22.071 (ready)
  - UMTS LCS System Stage 2, TS 23.171, based on GSM 03.71 (March 2000)
  - Separate UTRAN internal LCS Stage 2, TS 25.305
  - In addition the LCS measurements, the Iu, Iur and Iub support for LCS are included in corresponding 3GPP UMTS specifications R99.
- UMTS-LCS in release 99 and/or release 2000?
  - The complete set of UMTS LCS specifications (stage 3) is to be completed during 2000.

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Common specifications for LCS in GSM and UMTS?

- The goal is to maximize synergies between LCS in GSM and UMTS. GSM LCS will also be enhanced during 2000.
- UMTS has less options in LCS architecture than GSM. (SMLC functionality in SRNC)
- Common parts of GSM LCS and UMTS LCS could be developed in 3GPP
- Should be studied if possible to make Stage 3 common for GSM and UMTS in release 2000 (or later)

Organizing the work on LCS in 3GPP in year 2000

- Ad hocs/work shop meetings on LCS should be arranged during 2000. These ad hocs/work shops could be 3GPP wide or in related WGs.

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- CBS (Martin Guntermann, Mannesman)
- CBS work is feasible to be completed until March 2000
- CBS specifications completed in 1999:
  - S1 work on the stage1 requirements is finished
  - S2 approved the architecture requirements for Release 99
  - T2 approved the basic requirements for the CBC-RNC protocol
  - RAN2 has completed the specification work on the radio interface
- Work to be completed until March 2000:
  - S2 adaptation for the network architecture and for the modelling of services of the access stratum
  - RAN3 specification of the CBC/RNC protocol
  - T2 refinements of the protocol requirements in arrangement with RAN3
- Open Issue:
  - SA5 Fault management integration of CBC

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Technical scope of PS and CS Architecture IGC (Ulrich Dropmann, Siemens)

- Overall architecture
- Determination of principle protocol stacks of user and control plane
- Call Control, session management related issues

Involved groups

- Feedback received: R2, R3, N1, N2, N3_Packet, S4, N3_Circuit
- Feedback pending: T2
- Groups not contacted: R1, R4, T1, T3

Critical issues

- Progress on Critical issues identified for TSG-SA#5 should be updated into the plan
  - Classmark issues (CS&PS, HO handling with GSM/GPRS) are not sufficiently addressed (several groups involved)
  - In core network (N1) changes to 24.008 as due to the removal of LLC and stream identifier concept are essential for R99. In case of timing problem,

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- Security (Chris Pudney, Vodafone)
- Complete in December 1999 with corrections envisaged over next few months:
  - authentication and key agreement
  - access link integrity protection
  - access link confidentiality
  - secure GSM-UMTS interoperation
- Not complete in December 1999 but planned for completion by March 2000:
  - MAP security (see LS from S3, joint meeting 6/7 Jan, N2/S3)
  - enhanced user identity confidentiality ? - impact on UTRAN and CN is still unclear

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- S3 propose to review all the relevant specifications for all the security work topics on completion of tasks by TSGs
  - Ensure that S3 security features are properly implemented in the R99 specifications
  - Identify where corrective CRs are required
- IP security: re-named mobile IP security for R99
  - it is stated that mobile IP security is provided independently to the 3G security architecture in R99
  - further study for Release 2000
    - ⇨ profiling of IETF application security solutions for mobile environment
    - ⇨ mapping of 3G access security features to “all-IP” network
- Network-wide encryption: concern that not all the hooks may be in place
  - corrective CRs to be identified during review process

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- Services and service platforms (Rob Scmersel, Ericsson)
  - OSA/VHE Stage 2 TS 23.127 v1.1.0, planned completion date March 2000
  - VHE stage3 needs to be discussed by TSG-CN (R99/R00?).
- Plan concentrated on OSA/VHE issues and do not cover currently the issues related to services

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Main technical discussions and decisions for R00

- Creation of a new TR on Release 2000 Architecture (TR 23.821)
  - **Aim: provide guidelines for the Release 2000 Architecture. Not intended to be published.**
  - **Intended date of completion: March 2000**
- Schedule for R00
  - **S2 R00 work 50 % or more mature for SA #7 (v.1.0.0)**
  - **S2 Project Plan work for R00 (target date: SA #7)**
  - **S2 R00 work 80 % or more mature for SA #8 (v.3.0.0)**
  - **S2 R00 work finalised by SA #9**

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- S2 meeting dates for year 2000
  - TSG-S2#11 January 24-28, 2000. Hosted in Mexico by T1P1
  - TSG-S2#12 March 6-9, 2000 - host needed
  - TSG-S2#13 May 22-26, 2000 - potential host
  - TSG-S2#14 September 4-8, 2000 - potential host
  - TSG-S2#15 November 13-17, 2000 - host needed

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Actions expected from SA#6 by SA2 (1/5)

Approbation of one new document:

- TR 23.923 v.2.0.0, Combined GSM and Mobile IP Mobility Handling in UMTS IP CN, in SP-99536

For information:

- End of activities on TR 23.920 (“ open issues for R99”) after SA #6. TR 23.920 is not intended to be published.

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Actions expected from SA#6 by SA2 (2/5)

- **TS 23.002 v.3.1.0** on Network Architecture, in SP-99537 - Expected Completion Date: TSG SA#7
  - **At least the following issues are not yet covered:**
    - **Inclusion of CAMEL aspects (already missing in 03.02 v.6 and v.7)**
    - **Inclusion of CBS aspects (already missing in 03.02 v.6 and v.7)**
    - **Update of some references, in particular to RAN TSs**
  - **possible update of terminology needed (for UE/MS)**
- **TS 23.032** on Universal Geographical Area Description (GAD): No information

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Actions expected from SA#6 by SA2 (3/5)

- **TS 23.060 v.3.1.0** on General Packet Radio Service (GPRS); Service description; Stage 2, in SP-99538 - Expected Completion Date: TSG SA#7
  - Open issues:
    - ⇨ Shall anonymous access be supported for UMTS or GPRS 99? An LS has been sent to S1 to ask for guidance.
    - ⇨ Subclause 6.8.4: Shall the MS be able to send its IMSI encrypted? This issue is still being discussed in S3.
    - ⇨ Subclause 9.3: Shall the max N-PDU size be different from 1500 octets?
    - ⇨ Subclause 12.1.1: Is TCP support for UMTS on Gn and IuPS needed? S2-99D41 suggests that TCP is supported in the user plane for both Gn and IuPS.
    - ⇨ Subclause 15.1.3: Fair charging for UMTS to be determined.

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- **Actions expected from SA#6 by SA2 (4/5)**
- **TS 23.101 v.3.0.1** on General UMTS Architecture, in SP-99539 - Stable
- **TS 23.107 v.3.0.0** on QoS Concept and Architecture in SP-99540 - Stable
  - Work on 23.060 might cause some need for udates
- **TS 23.110 v.3.2.0** on Access Stratum (AS): Services and Functions, in SP-99541 - Stable
- **TS 23.121 v.3.1.0** on Architectural Requirements for Release 1999, in SP-99542 - Stable
  - Possible open issue: Currently BSSAP is used for inter-3G_MSC SRNS Relocation. There are proposals to replace this with RANAP. Guidance is being sought from CN as to the issues with this proposal.

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Actions expected from SA#6 by SA2 (5/7)

- **TS 23.127 v.1.1.0** on Virtual Home Environment (VHE)/ Open Service Architecture (OSA) - Stage 2, in SP-99543 - Expected Completion Date: TSG SA#7
  - Open Issues:
    - ⇨ Registration of Service Capability Server.
    - ⇨ Support for GPRS and SMS online charging.
    - ⇨ Description of 'Load Balancing' service capability features
    - ⇨ Support for USSD/SMS user interaction

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- **TS 23.171 v.1.1.0** on Location Services (LCS) in UMTS - Stage 2, in SP-99544 - Expected Completion Date: TSG SA#7
  - Issues for further study or open issues:
    - LCS support for packet switched services.
    - information transfer between SRNC and target UE and LMU
    - Handling of new accuracy classes being defined in SA1
    - Support of UTRAN positioning methods in core network ?
  - Adapting the final GSM 03.71 LCS stage 2 specification for 23.171 and 25.305 is still to be done.

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Actions expected from SA#6 by SA2 (7/7)

- Approval of the following CRs:
  - on 03.02 v.3.1.0, in SP-99545
  - on 23.002 v.3.1.0, in SP-99546
  - on 03.60 R 97 v.6.5.0 and R98 v.7.2.0 in SP-99547
  - on 23.060 v.3.1.0, in SP-99548
  - on 23.107 v.3.0.0, in SP-99549
  - on 23.110 v.3.2.0, in SP-99550
  - on 23.121 v.3.1.0, in SP-99551
  - on 23.920 v.3.1.0, in SP-99552

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