**SA WG2 Meeting #136 S2-19010847**

**Nov 18 - 22, 2019, Reno, USA**

**1. Agenda for SA2#135**

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| **AI#** | **Topic** | **Specs** | **Rapporteur** |
| **1** | **Opening of the meeting 9:00 on Monday** |  |  |
| **2** | **Approval of the agenda** |  |  |
| **2.1** | **IPR Call and Antitrust Reminder** |  |  |
| **3** | **Meeting reports** |  |  |
| **4** | **General** |  |  |
| **4.1** | **Common issues and Incoming LSs** |  |  |
| **5** | **Pre-Rel-17 Maintenance (excluding all 5G topics)**  **NOTE: FASMO criterion will be strictly enforced.**  *(Please do not submit documents directly to this agenda item.)* |  |  |
| **5.1** | **3GPP Packet Access Maintenance**  For corrections of any issues that relate to 3GPP access related aspects and for any work items from that area, like: SAE, CSFB, DÉCOR, MTC, CioT, CUPS, V2X, EDCE5, ProSe\_WLAN\_DD\_Stage2, PARLOS  And for maintenance of functionality introduced by TEIx CRs (x<17) in the area of 3GPP Access. Also alignment to past features (e.g. SAES) related to 3GPP access related aspects and alignment to diverse features specified by other working groups. | 23.060,  23.246, 23.272, 23.401, 23.468, 23.682,  23.285,  23.214 | Diverse / None |
| **5.2** | **QoS and PCC Maintenance**  For corrections of any issues that relate to QoS and PCC, including the policy related aspects of other Wis like from SAE, but also work items specific for that area like FMSS.  And for maintenance of functionality introduced by TEIx CRs (x<17) in the area of QoS and PCC. Also QoS and PCC related alignments to past features (e.g. SAES) and alignment to diverse features specified by other working groups. | 23.060,  23.203,  23.401, 23.402 | Diverse / None |
| **5.3** | **Non-3GPP Access Maintenance**  For corrections of any issues that relate to non-3GPP access related aspects and for any work items from that area, like: SEW1, VoWLAN.  And for maintenance of functionality introduced by TEIx CRs (x<17) in the area of non-3GPP Access. Also for alignment to non-3GPP aspects from past features (e.g. SAES) and for alignment to diverse features specified by other working groups, etc. | 23.402 | Diverse / None |
| **5.4** | **IMS and IMS-Related Maintenance**  For corrections of any issues that are IMS-related and similar aspects and for any work items from that area, like: IMS, Emergency, PS\_data\_off.  And for maintenance of functionality introduced by TEIx CRs (x<17) in the area of IMS-related. Also for alignment to IMS-related and similar aspects from past features and for alignment to diverse features specified by other working groups, etc. | 23.167,  23.221, 23.216,  23.228, 23.237  23.228  23.292 | Diverse / None |
| **6** | **Rel-15/Rel-16 Maintenance for 5G (only related to 5GS\_Ph1 Work Item)**  **NOTE: FASMO criterion will be strictly enforced.**  *(Please do not submit documents directly to this agenda item.)* | 23.501  23.502  23.503 | Tao Sun (China Mobile)  Devaki Chandramouli (Nokia)  Peter Hedman (Ericsson)  Mirko Schramm (Huawei) |
| **6.1** | **General aspects, concepts and reference models**  High level function descriptions that don’t fit under any of the other, more specific agenda items. Reference models. | 23.501  23.502 |  |
| **6.2** | **Common Access Control, RM and CM functions and procedure flows**  Related high level function descriptions, registration management procedures and RM and CM state models as long as common for 3GPP and non3GPP accesses. Related services/service operations where the AMF is the “NF producer”. Including slice related aspects of AC, RM and CM. Any impacts from virtual environments that affect RM/CM.  Any 3GPP or non3GPP access specific aspects of states or registration management procedures are for 6.7 or 6.10 respectively. | 23.501  23.502 |  |
| **6.3** | **Session management and continuity functions and flows**  Related high level function descriptions. Perhaps state models. Related system procedure flows. Related services/service operations where the SMF is the “NF producer”. Including slice related aspects of SM. | 23.501  23.502 |  |
| **6.4** | **Security related functions and flows**  Related high level function descriptions. Related system procedure flows. Related service based procedures. | 23.501  23.502 |  |
| **6.5** | **QoS concept and functionality**  Related high level function descriptions. Related system procedure flows. Related service based procedures. Any QoS related aspects from specific services support. | 23.501  23.502 |  |
| **6.6** | **Policy and charging control**  Related high level function descriptions. Related system procedure flows. Related services/service operations where the PCF is the “NF producer”. | 23.501  23.502  23.503  23.203 |  |
| **6.7** | **3GPP access specific functionality and flows**  Related high level functions and procedures, including 3GGP access related specifics of RM and CM states and registration procedures. Related service based procedures, if primarily motivated by the procedures here. Also on radio and CN idle related aspects, i.e. including aspects of RRC\_inactive.  3GPP access specifics of RM and CM states. Registration area management and area restriction handling. 3GPP access specific aspects of the registration management procedure.  MICO, Handover procedures, Service Request procedures and related, including selective activation of UP connections  Service Request with impact on SMF/UPF like changing those NFs is considered under 6.3. | 23.501  23.502 |  |
| **6.8** | **Specific services support**  Any QoS related aspects from specific services support, like MPS, are handled under 6.5.  - NAS level procedures and functions that are needed to support or enable specific services, e.g. for carrying SMS.  All common NAS procedures/support for users like SM or SMS should be under 6.2. Here should be only users of common NAS, like SMS specific NAS or like NAS for Location Services. SM specific NAS is under 6.3.  - SMS, PWS, IMS or Location Services procedures and functions that are above or outside NAS. | 23.501  23.502 |  |
| **6.9** | **Interworking and Migration**  Related high level function descriptions. Related system procedure flows. Related service based procedures. | 23.501  23.502 |  |
| **6.10** | **Non-3GPP access specific functionality and flows**  Related high level function descriptions including non3GPP access related specifics of RM and CM states and registration procedures. Related system procedure flows. Related service based procedures. | 23.501  23.502 |  |
| **6.11** | **Framework functions**  Related high level function descriptions. Related system procedure flows. Related services/service operations for “NF producers” like NRF or UDM. Function/service registration, discovery, authorisation of usage, ... | 23.501  23.502 |  |
| **7** | **Rel-16 Maintenance for 5G (excluding 5GS\_Ph1)**  *(Please do not submit documents directly to this agenda item.)* | 23.501  23.502  23.503 |  |
| **7.1** | **Architecture enhancements for 3GPP support of advanced V2X services (eV2XARC)** |  | LaeYoung Kim (LG Electronics) |
| **7.2** | **Wireless and Wireline Convergence for the 5G system architecture (5WWC)** |  | Marco Spini (Huawei) |
| **7.3** | **Access Traffic Steering, Switch and Splitting support in the 5G system architecture (ATSSS)** |  | Tricci So (ZTE) |
| **7.4** | **Cellular IoT support and evolution for the 5G System (5G\_CIoT)**  **+ RAN Rel-16 alignment – MT-EDT** |  | Sebastian Speicher (Qualcomm) |
| **7.5** | **Enablers for Network Automation for 5G (eNA)** |  | Xiaobo Wu (Huawei) |
| **7.6** | **Enhancement to the 5GC Location Services (5G\_eLCS)** |  | Ming Ai (CATT) |
| **7.7** | **5GS Enhanced support of Vertical and LAN Services (Vertical\_LAN)**  *(Please do not submit documents directly to this agenda item.)* |  | Devaki Chandramouli (Nokia) |
| **7.7.1** | **5GS Enhanced support of Vertical and LAN Services – 5G-LAN aspects** |  |  |
| **7.7.2** | **5GS Enhanced support of Vertical and LAN Services – TSN aspects** |  |  |
| **7.7.3** | **5GS Enhanced support of Vertical and LAN Services – Type a/b aspects** |  |  |
| **7.8** | **Enhancements to the Service-Based 5G System Architecture (5G\_eSBA)** |  | Tao Sun (China Mobile) |
| **7.9** | **Architecture enhancements for the support of Integrated access and backhaul (IABARC)** |  | Hong Cheng (Qualcomm) |
| **7.10** | **Other Rel-16 WIDs**  *(Please do not submit documents directly to this agenda item.)* |  |  |
| **7.10.1** | **Enhancement of URLLC supporting in 5GC (5G\_URLLC)** |  | Hui Ni (Huawei) |
| **7.10.2** | **Enhancement of Network Slicing (eNS)** |  | Tricci So (ZTE) |
| **7.10.3** | **Optimisations on UE radio capability signalling (RACS)** |  | Haris Zisimopoulos, (Qualcomm Incorporated) |
| **7.10.4** | **Enhanced IMS to 5GC Integration (eIMS5G\_SBA)** |  | Chris Joul(T-Mobile USA) |
| **7.10.5** | **User Data Interworking and Coexistence (UDICoM)** |  | Alessio Casati (Nokia) |
| **7.10.6** | **Enhancing Topology of SMF and UPF in 5G Networks (ETSUN)** |  | Laurent Thiebaut (Nokia) |
| **7.10.7** | **5GS Transfer of Policies for Background Data Transfer (xBDT)** |  |  |
| **7.10.8** | **Single radio voice continuity from 5GS to 3G (5G\_SRVCC)** |  |  |
| **8** | **Rel-17 WIDs**  *(Please do not submit documents directly to this agenda item.)* |  |  |
| **8.1** | **Study on architecture aspects for using satellite access in 5G (FS\_5GSAT\_ARCH)** |  | Pierre Rognant (Thales Aleniaspace) |
| **8.2** | **Study on Enablers for Network Automation for 5G - phase 2 (FS\_eNA\_ph2)** |  | Xiaobo Wu (Huawei), Aihua Li (China Mobile) |
| **8.3** | **Study on enhanced support of Non-Public Networks (FS\_eNPN)** |  | Peter Hedman (Ericsson) |
| **8.4** | **Study on system enablers for multi-USIM devices (FS\_MUSIM)** |  | Sašo Stojanovski (Intel) |
| **8.5** | **Study on enhancement of support for Edge Computing in 5GC (FS\_enh\_EC)** |  | Hui Ni (Huawei), Changhong Shan (Intel) |
| **8.6** | **Study on system enhancement for Proximity based Services in 5GS (FS\_5G\_ProSe)** |  | Qiang Deng (CATT), Jianhua Liu (OPPO) |
| **8.7** | **Study on architectural enhancements for 5G multicast-broadcast services (FS\_5MBS)** |  | Dario Serafino Tonesi (Huawei) |
| **8.8** | **Study on Enhancement of Network Slicing Phase 2 (FS\_eNS\_ph2)** |  | Tricci So (ZTE) |
| **8.9** | **Study on architecture enhancements for 3GPP support of advanced V2X services - Phase 2 (FS\_eV2XARC\_ph2)** |  | LaeYoung Kim (LG Electronics) |
| **8.10** | **Study on enhanced support of Industrial IoT - TSC/URLLC enhancements (FS\_IIoT)** |  | Devaki (Nokia) |
| **8.11** | **5G System Enhancement for Advanced Interactive Services (5G\_AIS)** |  | Lei Yixue (Tencent) |
| **9** | **Project Planning and Management**  *(Please do not submit documents directly to this agenda item.)* |  |  |
| **9.1** | **New and Revised Work Items, Cover sheets for completed work items, TEI17 proposals**  Any TEI17 technical enhancements should be proposed under 9.1 with a brief justification/discussion paper, possibly together with related CRs. So that the group can discuss and decide whether and how to move forward with the proposed TEI17 items and consider what meeting time to allocate per accepted TEI17 item during the work planning session. |  |  |
| **9.2** | **Review of the Work Plan** |  |  |
| **9.3** | **Planning future meetings** |  |  |
| **10** | **AOB** |  |  |
| **11** | **Close of the Meeting 16:00 on Friday** |  |  |

**2. Meeting Deadlines**

**Deadline for submitting tdocs: Friday, 08 Nov 2019, 24:00 UTC**

**Late documents will have lower priority at the meeting**. There is no specific deadline for requesting tdoc numbers. Tdocs submitted until deadline for submission need to have a valid tdoc number reserved via 3GU.

3GU (3GPP Ultimate) will be used for Tdoc # reservations and submission (<https://portal.3gpp.org>).

Please read introductory material kindly prepared by Maurice at: [S2-150746](http://www.3gpp.org/ftp/tsg_sa/WG2_Arch/TSGS2_108_Los_Cabos/Docs/S2-150746.zip) and by [3GPP](http://www.3gpp.org/FTP/webExtensions/3GU/3GU_instructions_for_delegates/ats-sld-00000.htm).

Adopting a good practice with 3GU:

Please remember to fill in all relevant fields for each document type when requesting a tdoc number.

Please take care to select the appropriate agenda item when requesting for a Tdoc number. Please avoid submitting to multiple agenda items.

Please include all Sources in the Source List field. If this list changes after having requested the tdoc number, please correct them in 3GU before uploading the tdoc.

If you are requesting a CR, remember to give also the relevant WI Code(s) as well as the Release,   
TS / TR number and Category.

If you are requesting a pCR, please fill in the TS/TR number - as well as the WI Code if it exists.

If you are requesting a TR or TR Cover sheet, please include the TS / TR number related to it.

Please do not use types you are not sure about (e.g. draftCR and response are only used by other WGs, we do not use these types in SA WG2; LS In is for MCC use).

Including all relevant information is a great help for meeting preparation for everyone and, in particular, for your management and support team.

**3. Draft time allocation**

When sessions run in parallel, tdocs may only be agreed. Tdocs may be approved, when there is no session in parallel.

♠ marks sessions with notes taken by MCC.

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|  | **Monday** | **Tuesday** | **Wednesday** | **Thursday revisions only unless stated differently** | **Friday (revisions only)**  **07:20:**  eV2XARC (7.1) – 12 +2 |
| **08:00**  **Q1**  **10:00** | \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  **09:00 – 10:30** ♠ **Opening (1)**, Agenda (2), Reports (3), Common issues (4.1), WIDs (9.1), Future Meetings (9.3) | ♠ Vertical\_LAN (7.7.2) TSN -57 | ♠ 5G\_CIoT (7.4) - 67 | ♠ Vertical\_LAN (7.7.1) 5G-LAN – 12  Vertical\_LAN (7.7.2) TSN - 14 Vertical\_LAN (7.7.3) type a/b - 13 | ♠ FS\_eNPN (8.3) - 7  FS\_IIoT (8.10) – 11  Vertical\_LAN (7.7.1) 5G-LAN - 9  Vertical\_LAN (7.7.2) TSN – 9 +1  Vertical\_LAN (7.7.3) type a/b – 4 +1 |
| 5G (6.8) Services Support - 34  IMS & related maint (5.4) - 2 | 5G (6.3) SM/SC - 11  eNA (7.5) | 5G (6.6) PCC - 18  5G\_eLCS (7.6) – 11  5G (6.8) Services Support - 8 | FS\_eNA\_ph2 (8.2) – 8  5G (6.8) Services Support - 1  5G (6.3) SM/SC - 6  eNA (7.5) - ? |
| eNS (7.10.2) - 8  xBDT (7.10.7) - 2  ETSUN (7.10.6) - 17 | 5G (6.9) Interworking and Migration - 10  5G (6.1) slicing – 37  5G (6.1) non-slicing – 37 | eIMS5G\_SBA (7.10.4) – 2  eNS (7.10.2) - 7  ETSUN (7.10.6) – 11  xBDT (7.10.7) - 1 | FS\_5GSAT\_ARCH (8.1) – 9  5G (6.9) Interworking and Migration - 3  RACS (7.10.3) 3  ETSUN (7.10.6) – 3  eIMS5G\_SBA (7.10.4) – 1 |
| **10:30**  **Q2**  **12:30** | **11:00: ♠** 5G\_CIoT (7.4) - 67 | ♠ Vertical\_LAN (7.7.1) 5G-LAN -19  Vertical\_LAN (7.7.3) type a/b -52 | ♠ FS\_5MBS (8.7) - 32 | **♠** 5G\_CIoT (7.4) - 25 | ♠) FS\_eNS\_ph2 (8.8) 8 +1  FS\_enh\_EC (8.5) – 4+1  FS\_MUSIM (8.4) – 3+1  FS\_5MBS (8.7) - 4  FS\_5G\_ProSe (8.6) - 22 |
| **11:00:** eV2XARC (7.1) -59 | 5G (6.6) PCC - 34  PCC/QoS Maintenance (5.2) - 0 | 3GPP maintenance (5.1) - 11  5G\_eSBA (7.8) - 28 | eV2XARC (7.1) - 30 | 5G\_URLLC (7.10.1) – 10  5G\_eSBA (7.8) – 10  5G (6.6) PCC - 4 |
| ATSSS (7.3) - 52 | IABARC (7.9) - 4  ETSUN (7.10.6) - 17 | ATSSS (7.3) - 52 | ATSSS (7.3) - 14  5WWC (7.2) - 14 | 5WWC (7.2) - 5  ATSSS (7.3) – 7  5G (6.10) non-3GPP specific - 1  FS\_5GSAT\_ARCH (8.1) – 9 |
| Lunch |  | 1:00PM ATSSS drafting (Naples 4)  1:00PM Vertical\_LAN – TSN (Naples 6/7) | 1:00PM Vertical\_LAN – TSN (Naples 2/3) |  |  |
| **14:00**  **Q3**  **15:30** | ♠ FS\_eNPN (8.3) - 29 | ♠ FS\_IIoT (8.10) - 17 | ♠ FS\_5G\_ProSe (8.6) - 50 | ♠ FS\_enh\_EC (8.5) - 9 | **13:00 Start of single stream**  **13:30** List of agreed tdocs for block approval  ♠ Revisions  **15:00** block approval of agreed tdocs  Agreed tdocs not available by the time of the block approval may be turned to status OPEN on request.  ♠ Revisions,  AOB (10) |
| eV2XARC (7.1) - 59 | 5G\_eLCS (7.6) - 26 | eNA (7.5) - 48 | 3GPP maintenance (5.1) - 4  FS\_eNA\_ph2 (8.2) – 10  5G (6.3) SM/SC - 6 |
| FS\_5GSAT\_ARCH (8.1) – 29 | eIMS5G\_SBA (7.10.4) – 4  RACS (7.10.3) - 32 | 5G\_SRVCC (7.10.8) – 5  5G (6.2) AC/MM/CM – 9  UDICoM (7.10.5) - 1 | 5G (6.9) Interworking and Migration - 8  RACS (7.10.3) 14 |
| **16:00**  **Q4**  **17:30** | ♠ FS\_5G\_ProSe (8.6) - 50 | ♠ FS\_MUSIM (8.4) - 45 | ♠ **15:45 – 17:15:**  FS\_eNS\_ph2 (8.8) - 25 | ♠ FS\_MUSIM (8.4) - 10  FS\_5MBS (8.7) - 9 | **16:00 Close of meeting (11)** |
| eNA (7.5) - 48 | 5G\_eSBA (7.8) - 28 | **15:45 – 17:15:**  5G\_URLLC (7.10.1) - 20 | 5G\_eSBA (7.8) – 16 |
| 5G (6.4) Security 7  5G (6.5) QoS 9  5G (6.7) 3GPP specific - 0 | 5WWC (7.2) - 25 | **15:45 – 17:15:**  5G (6.11) Framework - 1  5G (6.10) non-3GPP specific - 3  FS\_5GSAT\_ARCH (8.1) – 29 | FS\_5GSAT\_ARCH (8.1) – 20  5WWC (7.2)  ATSSS (7.3) |
| **18:00**  **Q5**  **19:30** | ♠ FS\_enh\_EC (8.5) - 33 | ♠ Vertical\_LAN (7.7.2) TSN -57  Vertical\_LAN (7.7.3) type a/b - 52 | ♠ **17:30:** Work planning (9.2) | ♠ FS\_5G\_ProSe (8.6) - 22 | **Approved tdocs not available after the meeting may be unapproved and go for email approval instead.** |
| eV2XARC (7.1) - 59 | FS\_eNA\_ph2 (8.2) - 50 |  | eNA (7.5) – 25+ |
| RACS (7.10.3) - 32 | 5G (6.1) non-slicing - 37 |  | 5G (6.4) Security - 3  5G (6.5) QoS - 7  5G (6.1) non-slicing - 9  5G (6.2) AC/MM/CM – 2 |

Tao Andy LaeYoung

**NOTE: Times on the agenda are estimates. The schedule may change during the meeting.**

**5. Meeting room allocation**

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Main meeting room (170): Naples 6/7

Breakout room 1 (70): Naples 2/3

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Breakout room 2 (40): Naples 4