

	AF	AG
1	Withdrawn	Doc-for
641	No	Approval
642	No	Endorsement

Tdoclist_RAN_72

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APPENDIX 28



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139 items.

APPENDIX 29

3GPP TSG SA Meeting #72**REPORT****Busan, South Korea, 15 - 17 June 2016**

Source: Secretary TSG SA (Maurice Pope, MCC)**Title: Report of TSG SA meeting #72****Status: Version 1.0.0. - Approved at TSG SA#73****Draft Report****Contents**

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0 Definitions

Noted: A document is "**noted**" to indicate that its content was made available to the meeting, but that the document itself was not agreed or endorsed by the meeting. Any agreements or actions resulting from discussion of the document are explicitly indicated in the meeting report.

1 Opening of the meeting

The TSG SA Chairman, **Mr. Erik Guttman** (Samsung) opened the meeting and thanked the hosts, **TTA**, for inviting TSG SA to Busan, South Korea. **Ms. Esthel Lee (TTA)** welcomed delegates to the meeting, and provided information about the area and the domestic arrangements for the meeting. He wished TSG SA a successful meeting.

Delegates were reminded of the importance of electronically checking in to indicate their presence and maintaining the voting rights of Member companies.

Vice Chairmen for the meeting were **Mr. Mr. Greg Schumacher** (Sprint Corporation), **Mr. Christian Toche**, (HuaWei Technologies Co., Ltd) and **Mr. Daisuke Yokota** (SoftBank Corp.). The Secretary was **Mr. Maurice Pope** (MCC).

2 Approval of Agenda

TD SP-160235 (AGENDA) Draft agenda for TSG SA meeting #72. (Source: TSG SA Chairman).

Abstract: Draft agenda for TSG SA meeting #72.

Discussion and conclusion:

The agenda was reviewed and **approved**.

3 IPR and Antitrust policy reminder

IPR Reminder:

The TSG SA Chairman **reminded** delegates of their company's obligations under their SDO's IPR policies:

The attention of the delegates to the meeting of this Technical Specification Group was drawn to the fact that 3GPP Individual Members have the obligation under the IPR Policies of their respective Organizational Partners to inform their respective Organizational Partners of Essential IPRs they become aware of.

The delegates were asked to take note that they were thereby invited:

- to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP.
- to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Information Statement and the Licensing declaration forms (<http://webapp.etsi.org/lpr/>)

Antitrust policy Reminder:

The attention of the delegates to the meeting was drawn to the fact that 3GPP activities were subject to antitrust and competition laws and that compliance with said laws was therefore required by any participant of the meeting, including the Chairman and Vice-Chairmen and were invited to seek any clarification needed with their legal counsel. The present meeting would be conducted with strict impartiality and in the interests of 3GPP. Delegates were reminded that timely submission of work items in advance of TSG/WG meetings was important to allow for full and fair consideration of such matters.

4 Reports from Previous Meetings

TD SP-160254 (REPORT) PCG#36 Actions for TSG SA. (Source: TSG SA Chairman).

Abstract: PCG#36 resulted in actions relevant to TSG SA.

Discussion and conclusion:

This was provided for information and was **noted**.

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[TD SP-160255](#) (REPORT) TSG SA Report to TSG RAN - Questions for Advice and Requests. (Source: TSG SA Chairman).

Abstract: This report will be presented to TSG RAN#72. It is submitted to TSG SA#72 for information only.

Discussion and conclusion:

This was provided for information and was [noted](#).

[TD SP-160281](#) (REPORT) 3GPP Marketing and New Markets. (Source: TSG SA Chairman).

Abstract: At TSG SA#70, during discussion of 3GPP involvement in 'potential new markets for 3GPP standards,' the question was raised: What does 3GPP do to promote itself? The PCG#36 Marketing Officer Report in PCG36_16 shows in detail what the 3GPP Marketing officer does, with annexes detailing the activity in 2015. With respect to promoting better understanding and 3GPP success in new markets - 3GPP leaders participate in a number of related fora.

Discussion and conclusion:

This was provided for information and was [noted](#).

4.1 Report from TSG SA#71

[TD SP-160236](#) (REPORT) Draft Report of TSG SA meeting #71. (Source: TSG SA Secretary).

Abstract: Draft Report of TSG SA meeting #71.

Discussion and conclusion:

The report was reviewed and [approved](#). It will be placed on the FTP server with revision marks accepted as version 1.0.0.

4.2 Reports from TSG SA ad-hoc meetings and workshops (Reports related to features will be covered under the feature related agenda item)

[TD SP-160237](#) LS from TSG RAN: DRAFT LTI on Work towards revision 1 of Recommendations ITU-R M.2070 and M.2071 - Questions for clarification within 3GPP specifications. (TSG RAN)

Abstract: For 3GPP review: in: TSG RAN feedback LS before: April 29, 2016 to: TSG SA in: TSG SA feedback LS before: May 11, 2016 to: 3GPP PCG Overall description: ITU-R Working Party 5D (WP 5D) informed 3GPP that the contribution from 3GPP in PCG36#09 on revision 1 of Recommendations ITU-R M.2070 and M.2071 (out of band emissions for IMT-Advanced systems) contained some issues to be clarified:

- In table 4.6.6-1 of ITU-R Recommendation M.2071, the maximum power values are in square brackets
- Table 4.6.6-1 is also existing twice RAN WG4 analysed the issue and provides this document with the proposed answer to ITU-R WP5D

Actions: RAN WG4 asks TSG RAN to review the document by April 29, 2016 and submit the RAN approved version to TSG SA. TSG RAN asks TSG SA to review the document by May 11, 2016 and submit the SA approved version to PCG for final approval. It is reminded that before final submission to ITU-R, in footnote 1 of this document, the source PCG doc number has to be updated as soon as it is available. The submission deadline for the submission of the material to ITU-R is June 7th, 2016. Therefore PCG needs to provide E-mail approval by May 20, 2016. The final version of the document will be submitted to ITU-R WP5D by 3GPP individual members.

Decision:

The document handled over e-mail before the meeting and was [endorsed](#).

[TD SP-160279](#) DRAFT LTI on Work towards revision 1 of Recommendations ITU-R M.2070 and M.2071 - Questions for clarification within 3GPP specifications. (TSG SA)

Abstract: To: PCG.

Decision:

The document handled over e-mail before the meeting and was [approved](#) and forwarded to the PCG.

[TD SP-160246](#) LS from TSG RAN: Draft LTI on Revision of Report ITU-R M.2291. (TSG RAN)

Abstract: For 3GPP review.

Decision:

The document handled over e-mail before the meeting and was [endorsed](#).

[TD SP-160280](#) Draft LTI on Revision of Report ITU-R M.2291. (TSG SA)

Abstract: To: PCG. Attachment: draft-Reply-on-PPDR-input-for-ITU-R-M.2291-rev1.

Decision:

The document handled over e-mail before the meeting and was **approved** and forwarded to the PCG.

5 Items for early consideration (Please contact the chairman in advance)

[TD SP-160252](#) (DISCUSSION) Release 14 Planning at TSG SA#72. (Source: TSG SA Chairman, TSG SA WG2 Chairman).

Abstract: TSG SA will consider work planning and potentially take action if SA WG2's capacity cannot cope with the overall set of work items that intend to achieve results in Q3 2016, taking into account the possibility of exceptions in Q4.

Discussion and conclusion:

The TSG SA Chairman commented that before any prioritisation activity the TSG SA Chairman will work with relevant WG Chairman to coordinate and comments from Member companies are welcome on this. This was then **noted**.

[TD SP-160442](#) (DISCUSSION) Next Generation Architecture_x00B_for New Radio. (Source: VODAFONE Group Plc).

Abstract: Proposes that 'Next Gen' and 'StandAlone New Radio' are a coordinated 3GPP product, and, that SA WG2 develop a plan to deliver the new core network aligned with 'StandAlone New Radio'.

Discussion and conclusion:

Intel asked why the NAS protocol was selected as needed for the NextGen architecture as it is only one component of what is needed. Vodafone replied that the intention was not to assume the existing NAS protocol will be used. Nokia commented that the main point of the presentation is page 3: 'Proposals' and we should focus on it. It was clarified that bullet 2 of the proposal is to ask SA WG2 to provide a plan on how they intend to complete work by TSG SA#73. The SA WG2 Chairman replied that there are new proposals in SA WG2 and these need to be studied to determine the possible solutions and timescales for the work. Telecom Italia commented that TSG RAN discussions allow the possibility for a Non-Standalone UE to connect to either EPC core or NextGen Core and the NextGen Core needs to be ready for deployment to allow this. Deutsche Telekom reported that TSG RAN had discussed the document in [RP-161249](#). This should be discussed by companies in anticipation of further discussions in the Joint session with TSG RAN. This was then **noted**.

[TD SP-160350](#) (DISCUSSION) Discussion on NextGen Work Planning to support parallel NSA-NR and SA-NR Development. (Source: ZTE Corporation).

Abstract: The intent of this paper is to propose an alternative NextGen work plan for consideration to support parallel NSA-NR and SA-NR standard development.

Discussion and conclusion:

Intel commented that this seemed to exclude Stand alone NR which is currently not the case in the SA WG2 study. It was asked why the combination of ETC Core and Non-Standalone NR is included. The TSG CT Chairman commented that the Stage 3 timescale provided in Slide 6 is quite short. Ericsson commented that the timelines are challenging considering that the NextGen study is expected to complete in December and not September. Cisco commented that the schedules and timelines discussion should be held in SA WG2. It was commented that having both Non-Standalone and NextGen Core need to be considered to avoid market fragmentation. The SA WG2 Chairman commented that the impacts of the proposed phasing of functions need to be studied by SA WG2 and cannot be determined in TSG SA alone. The TSG SA Chairman commented that the details of the work will be subject of WIDs which can be agreed by TSG SA and the time schedule should continue to be discussed in accordance with the RAN timelines. This was then **noted**.

[TD SP-160438](#) (DISCUSSION) On NextGen architecture options. (Source: Intel).

Abstract: Triggered by discussions in the joint SA WG2/RAN WG2/RAN WG3 meeting that revealed a discrepancy between the SA WG2 work on one side and the RAN WG2/RAN WG3 work on the other side regarding NextGen architecture options.

Discussion and conclusion:

Telecom Italia supported this contribution which is in accordance with their view of UE connection scenarios. There were differing views over the conclusions on UE complexity in this contribution. ZTE agreed that NGNM Option 3 was the way forward but needed clarification on some of the other aspects. Cisco commented that the scenarios need to be identified with discussion with TSG RAN before the use of NGNM Option 3 can be confirmed as the way forward. The SA WG2 Chairman commented that there appeared to be different understandings on what Option 3 is and this needs to be clear before discussion with TSG RAN. This was then [noted](#).

[TD SP-160437](#) (DISCUSSION) AT&T Views on Phase 1 Acceleration of Next Generation Systems. (Source: AT&T).

Abstract: Introduction:

AT&T is aware of some discussions regarding accelerating the timelines on Next Generation Systems

- One proposal circulated is being termed 'Phase 0'
- A 'Phase 0' is not an appropriate approach for 3GPP
- AT&T DOES support consideration of an accelerated Phase 1 in 3GPP and offers its views.

Discussion and conclusion:

LATE DOC: Rx 10/06. 09:00. There were some discussion and clarifications. This was then [noted](#).

[TD SP-160455](#) (Discussion) Architecture configuration options for NR. (Source: Deutsche Telekom).

Abstract: Questions and conclusions:

scenario 1) is legacy -> 7 options remain

- Does 3GPP need to support all remaining 7 architecture options ?
- Is there a phasing possible / desirable ?
- How to ensure forward compatibility in order to avoid global fragmentation, especially considering roaming ?

Discussion and conclusion:

Copy of [RP-161249](#). Deutsche Telekom clarified that this does not necessarily represent their view on this but is a report on discussions held on the topic. Intel commented that the options can be reduced to three packages of architecture options and that the solutions are clustered and discussions focused around the clusters. There was some discussion and it was considered a good way forward to try to eliminate connection options which do not make sense and to try to identify overlapping options. The SA WG2 Chairman requested that RAN start to use new names for what is currently always shown as 'LTE' to avoid misunderstanding of which Radio is intended. ZTE commented that RAN is interested on impacts between the RAN and NextGen Core and only these scenarios need to be considered.

Telecom Italia commented that Scenarios 2 and 5 are important and they preferred Scenario 7 for a dual connectivity option.

AT&T commented that Scenario 7 is the key one for them for Rel-15 and the inclusion of Scenario 3 is irrelevant.

Verizon commented that they wanted Scenario 2 and asked for clarification on what RAN intends by Standalone.

NTTDOCMO commented that they would prefer to use Scenario 3 in order to allow rapid deployment and testing.

Vodafone preferred Scenarios 7 and 2.

TeliaSonera preferred Scenario 2 and did not want Scenarios 6 and 8, but were still considering the dual connectivity options.

Orange preferred Scenarios 2 and 4 and found Scenario 7 worth considering.

Deutsche Telekom preferred Scenarios 2 and 5.

Ericsson commented that the scenarios do not indicate how much work is involved in achieving them and Scenarios 4 and 7 would need to be developed with a common interface. Cisco agreed that a common interface will be needed. It was noticed that there was no support for scenarios 6 and 8.

This was then [noted](#). Further discussed in TSG RAN and revised to [TD SP-160464](#) ([RP-161266](#)) which was [noted](#).

NOTE: Vodafone clarified after the meeting that their interest is in scenarios 3, 7, and 2.

[TD SP-160253](#) (DISCUSSION) Specification Withdrawal. (Source: TSG SA Chairman).

Abstract: At TSG SA#71 it was decided to work to identify a procedure for Specification Withdrawal.

Discussion and conclusion:

Deutsche Telekom asked if there were any legal implications of the withdrawal of specifications from an IPR point of view. Blackberry asked whether the I-WLAN specifications can be withdrawn when they already exist in Rel-13. The MCC specification manager reported that when a TS is withdrawn the latest version of the TS would be marked in the database and web as 'withdrawn' and the TS would no longer appear on the FTP site under latest versions. It would continue to be available in the archive. SDOs would also need to use their own procedures for withdrawing their transposed specifications. The TSG CT Chairman commented that there is no impact on Rel-13 for the withdrawal of the I-WLAN feature and having this proposed procedure in place would have made the process easier. Blackberry commented that there should in future be forward notice provided in the WIDs of the intention to replace functionality in a non-backwards-compatible way. The TSG CT Chairman suggested that Rel-13 is handled now and any discussion on further handling of the Rel-12 is taken at a future meeting and agreed that clear information on withdrawal of functionality should be provided for advance discussion in future. The SA WG3 chairman commented that within their specifications, they try to keep the same text in a single place and the disadvantage of this is when the specification gets withdrawn and SA WG3 would like to keep TS 33.234 in Rel-13. Morpho Cards commented that the I-WLAN specifications are also referenced from the CT WG6 SIM/USIM specifications and would then need to be made release specific. These issues should be further discussed off-line. It was decided to send a LS to WGs on this which was drafted in [TD SP-160470](#). This was then **noted**.

[TD SP-160470](#) (LS OUT) [DRAFT] LS on Specification withdrawal and I-WLAN handling.

Abstract: To: CT WG1, CT WG3, CT WG4, CT WG6, TSG CT, SA WG1, SA WG2, SA WG3, SA WG5.

Discussion and conclusion:

Blackberry commented that there is no need to tell the WGs how to do handle this and suggested removing the last bullet and asked to clarify which Release of each TS should be referenced. This was left for further off-line discussion and revised in [TD SP-160498](#) which was reviewed. This was revised to remove revision marks and 'draft' in [TD SP-160508](#) which was **approved**.

[TD SP-160421](#) (DISCUSSION) Discontinuation of I-WLAN CT WG1 TS 24.234, TS 24.235 and TS 24.327 in Rel-12. (Source: QUALCOMM UK Ltd).

Abstract:

1. Proposal It is proposed to I-WLAN CT WG1 specification TS 24.234, TS 24.235 and TS 24.327 to stop in Rel-12 and not promote them to Rel-13 onwards.

It is proposed to approve CR SP-160422 [7] for TS 23.234 and CR SP-160431 [6] for TS 33.234.

Discussion and conclusion:

This was reviewed and should be considered in off-line discussion. This was then **noted**.

[TD SP-160452](#) (DISCUSSION) Discontinuation of 3GPP Specifications including I-WLAN Specifications. (Source: BlackBerry UK Ltd).

Abstract: This contribution discusses the discontinuing of approved specifications and specifically those specifications for I-WLAN (Interworking WLAN).

Discussion and conclusion:

LATE DOC: Rx 15/06, 10:30. This was reviewed and should be considered in off-line discussion. This was then **noted**.

[TD SP-160422](#) 23.234 CR0173 (Rel-13, 'F'): Creating stub version of TS 23.234. (Source: QUALCOMM UK Ltd).

Abstract: Summary of change: Creates a stub version of TS 23.234.

Discussion and conclusion:

This was **withdrawn**.

[TD SP-160431](#) 33.234 CR0124 (Rel-13, 'F'): Update of reference to TS 24.234. (Source: QUALCOMM UK Ltd).

Abstract: Summary of change: Reference to TS 24.234 will not exist.

Discussion and conclusion:

This was **withdrawn**.

5.1 Challenges to working agreements (Must have been previously requested)

There were no contributions under this agenda item.

6 General Incoming Liaisons (Liaisons related to specific features will be covered under the feature related agenda item)

(Liaisons related to specific features will be covered under the feature related agenda item).

TD SP-160239 LS from ETSI NGP: Liaison about ETSI ISG NGP (Next Generation protocols). (ETSI NGP) **Abstract:** We are pleased to inform you of a relatively new Industry Specification Group on Next Generation Protocols, created in December 2015. I would expect that some of the work in ISG NGP would become important to your work in TSG SA.

The ETSI Next Generations Protocols (NGP) ISG appreciates how the TCP/IP protocol suite has enabled the evolution of connected computing and many other developments since its invention during the 1970's. We aim to gather opinions on how we can build on this momentum by evolving communications and networking protocols to provide the scale, security, mobility and ease of deployment required for the connected society of the 21st century.

The objectives of ISG NGP are deliberately quite broad as we feel a holistic review of functionality is required and new approaches will be necessary. Key issues to be studied include; addressing, security, identity and authentication, mobility along with requirements from Internet of Things, video and content distribution, ultra-low latency use cases, network operation, eCommerce and the need for increased energy efficiency within the ICT sector. We invite any interested parties from your ISG to follow our progress via the ETSI portal, mailing lists or attendance at our ISG meetings. Participation in the ISG NGP is subject to signature of an ISG NGP agreement you can find at: <https://portal.etsi.org/tb.aspx?tbid=844&SubTB=844> Explanation about those agreements is also available from the same location. The following Work Items are currently being scoped with more to follow:

- ETSI White Paper
- Requirements on Next generation protocols
- ETSI GS-NGP01
- Scenario Definitions
- ETSI GS-NGP02
- SON control Plane.

Meeting dates for 2016: NGP#3: 12-13 July 2016 NGP#4: 10-11 Oct 2016 NGP#5: 6-7 Dec 2016

For further information please consult: <https://portal.etsi.org/tb.aspx?tbid=844&SubTB=844>

else please do not hesitate contacting our ISG NGP Support: Emmanuelle Chaulot-Talmon

In addition, I would be pleased to speak with you and/or your group by phone or in person to explain further what we are doing and the progress we've made thus far.

Best regards,

Andy Sutton ETSI ISG NGP Chairman.

Chairman's comment: For information only.

Discussion and conclusion:

This LS was [noted](#).

TD SP-160240 LS from ETSI NTECH: LS OUT to SA WG5 and SA WG2 on GANA instantiation in the Core and Backhaul network parts of the 3GPP Architecture. (ETSI NTECH)

Abstract: TC NTECH is pleased to inform SA WG5 and SA WG2 that they are developing a Technical Report on the instantiation of the Generic Autonomic Network Architecture (GANA) model onto the 3GPP Core and Backhaul Network architectures.

The report describes the introduction of autonomics in the EPC 3GPP Core network and the Backhaul. Both network segments are beyond the scope currently covered by SON.

SON itself is part of the broader picture of the autonomics concept. Introducing autonomics in these network segments complements the existing 3GPP management architecture with add-on automated and autonomic management & control (AMC) features that target dynamic management and adaptation of resources in these two segments.

This report is based on the GANA framework, which also provides for coordination and synchronization between Decision making Elements (DEs) of control loops to ensure the stability of the network and prevent conflicts between the decisions that might happen.

The main outcome of the study in this report is that it is possible to introduce autonomics (management and control intelligence) in the Core and the Backhaul without impacting the existing reference points and architecture.

Existing protocols and management mechanisms can be leveraged to execute the necessary interactions between the Core Network standardized nodes and functionalities and the overlay of atomic autonomic components (software) entities introduced by the GANA framework mapping. The autonomic components may be launched in the network as intelligence-enhancing management and control software. There is no impact on the user plane or the control plane.

However the work identified the need for a reference point in the management plane to be placed between the C-SON and GANA Knowledge Plane for the Core network. This would enable information (e.g. some KPIs) or decision sharing between the two entities so as to implement collaborative end-to-end self-optimization by C-SON and GANA Knowledge Plane for the Core network.

TC NTECH representatives are available to make a presentation of this report at the 3GPPSA WG5#107 in May.

Chairman's comment: For information only.

Discussion and conclusion:

This LS was [noted](#).

TD SP-160241 LS from ITU-R: Invitation for submission of proposals for candidate radio interface technologies for the terrestrial components of the radio interface(s) for IMT-2020 and invitation to participate in their subsequent evaluation. (ITU-R)

Abstract: The purpose of this Circular Letter is to invite the submission of proposals for candidate radio interface technologies (RITs) or a set of RITs (SRITs) for the terrestrial components of IMT-2020. The Working Party 5D timeline shows that the submission of proposals is scheduled to begin at meeting #28 (October 2017) and end at meeting #32 (mid-2019)

This Circular Letter also initiates an ongoing process to evaluate the candidate RITs or SRITs for IMT-2020, and invites the formation of independent evaluation groups and the subsequent submission of evaluation reports on these candidate RITs or SRITs.

It should be noted that further information to announce details of the invitation for submission of proposals (including technical performance requirement and evaluation criteria) will be provided by addenda to this Circular Letter. Within the ITU-R, the work on IMT-2020 is being conducted in ITU-R Working Party 5D (WP 5D) of Study Group 5 as the group responsible for this work.

Chairman's comment: For information only.

Discussion and conclusion:

This LS was [noted](#).

[TD SP-160242](#) LS from SA WG5: LS reply on progress of the work on Diameter Base Protocol Update. (SA WG5)

Abstract: SA WG5 thanks CT WG4 for their reply LS (S5-162035) on progress of the work on Diameter Base Protocol Update and the new version of the TR 29.819v1.1.0. incorporating specific 3GPP Diameter Accounting application SA WG5 aspects regarding the Diameter extensibility rules.

SA WG5 has discussed the strengthened restrictions brought by IETF RFC 6733 for Diameter extensibility rule on mandatory AVPs: since RFC 6733 does not specify any rejection by a receiver for a given Diameter application which is not aligned with the Diameter extensibility rule itself (i.e. the pure 'M-Bit' flag rule check will apply instead), SA WG5 came to the conclusion that 3GPP Diameter Accounting application will not be impacted by the update to RFC 6733 regarding the Diameter extensibility rules.

SA WG5 has also discussed this IETF RFC 6733 Diameter extensibility rule on mandatory AVPs for their 3GPP TS 32.299 Diameter Credit-Control Application, and came to the same conclusion, i.e. SA WG5 3GPP Diameter Credit-Control application will not be impacted by the update to RFC 6733 regarding the Diameter extensibility rules.

Therefore SA WG5 can confirm 'the reference to the IETF RFC 3588 [2] can be seamlessly updated to IETF RFC 6733 [3] for 3GPP TS 32.299 3GPP Diameter Accounting application and Diameter Credit-Control Application regarding the Diameter extensibility rule'.

During their discussion, SA WG5 has also considered the following text under 5.3.1.4 Conclusion: 'For 3GPP Diameter Accounting application using the Diameter Base Protocol Accounting (application Id =3), such as specified in 3GPP TS 32.299 [16], further studies are required to evaluate how AVPs can be added to existing commands with M-bit cleared to avoid backward compatible issues'.

SA WG5 may further consider evaluating new AVPs introduction and M-bit setting, however this would be done independently from SA WG5 conclusions as stated above and should not affect the CT WG4 general conclusion regarding Diameter extensibility rule.

Chairman's comment: For information only.

Discussion and conclusion:

This LS was [noted](#).

TD SP-160243 LS from GSMA: Liaison statement regarding GSMA Wi-Fi PRD TS.22 Version 5 Publication. (GSMA)

Abstract:

1 Summary

The GSMA Terminal Steering Group (TSG) wishes to announce the publication of the Recommendations for Minimum Wi-Fi Capabilities of Terminals Version 5.0 (TS.22), inform on next steps and confirm interest to continue the collaboration.

2 Background and Introduction

WLAN has become a standard option for radio access in mobile devices. However, mobile terminals have varying degrees of WLAN support, resulting in diverse user interfaces, level of standards support, and feature capabilities with respect to the terminal and operating system; resistance by end users and customers to use WLAN; inability of network operators to offer a consistently implementable WLAN data offloading service causing customer complaints, brand damage, interoperability issues etc. In 2011, the GSMA TSG kicked off work to agree key principles for the support of usability, authentication, connection management and performance handling on the terminal and to derive and deliver functional recommendations for the client/terminal/OS to be supported.

3 Recommendations for 'Minimum Wi-Fi Capabilities of Terminals', Version 5.0

Following the publication of Version 4.0, the TSG Wi-Fi group members, comprised by experts from operators and vendors around the globe, agreed on updates, considering technical and market developments as well as other related standards work. The group enhanced the technical recommendations as well as the document organisation and delivered the Minimum Wi-Fi Capabilities of Terminals Version 5.0 (GSMA TS.22), published by GSMA on 07 April 2016 at <http://www.gsma.com/newsroom/gsmadocuments>. The document consolidates terminal requirements, based on WLAN experiences from operators and further discussions with the TSG operator and vendor membership. The updates within Version 5.0 cover the following topics:

- Updated support for VoWiFi and harmonisation with GSMA PRD IR.51 and GSMA PRD IR.61
- Updated technology from IEEE 802.11 and the Wi-Fi Alliance

4 Moving Forward

Following finalisation and publication of Version 5.0, the TSG Wi-Fi group will consider if any further updates are required in 2016 or in future years.

5 Interest to Collaborate

GSMA TSG has a strong interest to closely cooperate with industry groups driving related work. We welcome your feedback to the current version, ideally by end of June 2016.

Chairman's comment: For information only.

Discussion and conclusion:

The GSMA clarified that this is a new version which takes Voice over WiFi into account. This LS was **noted**.

TD SP-160244 LS from WBA: Liaison Statement Software Defined Networking (SDN) and Network Function Virtualisation (NFV) for Wi-Fi networks. (WBA)

Abstract: Dear Chairwomen, Chairmen, WBA has the pleasure to inform that the whitepaper on Software Defined Networking (SDN) and Network Function Virtualisation (NFV) for Wi-Fi networks has been published and it is available on the WBA resource center here:

<http://www.wballiance.com/wba/wp-content/plugins/download-monitor/download.php?id=210>

The scope of the work was to provide a view on current standardization landscape on SDN and NFV, to identify the factors in existing Wi-Fi network architecture that influences the deployment of functions based on the NFV framework and/or using the SDN framework.

The WBA effort points out how the SDN and NFV are representing an important topic and a possible turning point in the evolution of telecommunications, but Wi-Fi network represents a small element in the overall discussion in SDN and NFV despite the fact that the Wi-Fi network represents one of the most common means for accessing to today's networks, considering the Smartphone, tablet, laptop and the huge number of other device which are Wi-Fi enabled. WBA invites partners to kindly consider the Wi-Fi networks needs and requirement in their ongoing activities.

WBA is available for further collaboration and discussion related to the Wi-Fi network and in identifying the use case and requirements For more information or to provide any inputs to the WBA workgroup please contact the WBA PMO (pmo@wballiance.com).

Chairman's comment: For information only.

Discussion and conclusion:

This LS was **noted**.

TD SP-160245 LS from ETSI TC RT: Updated User requirements Specification on Future Railway Mobile Communication System. (ETSI TC RT)

Abstract: ETSI TC-RT/ NG2R thanks TSG SA for their LS in **TD SP-160230** regarding the positive answer for considering FRMCS requirements in the Release 15 time frame.

A new study item will be proposed by Industry which should refer to the attached updated version 2.0 of User Requirement Specification.

Best Regards

Robert Sarfati TC RT Chairman.

Chairman's comment: For information only.

Discussion and conclusion:

Response to **TD SP-160230** (TSG SA#71). This LS was **noted**.

TD SP-160247 LS from ONF: Publication of ONF TR-526 'Applying SDN Architecture to 5G Slicing'. (ONF)

Abstract: Dear Colleagues, We are pleased to inform you about the publication of ONF Technical Recommendation TR-526, entitled Applying SDN Architecture to 5G Slicing. The TR describes how key functional aspects of the SDN architecture apply for the enablement of the business-driven concept of network slicing, one of the key concepts for 5G, as envisioned by NGMN.

TR-526 refers to the business perspective for the term and understanding of 5G slicing, with the goal of a synthesis to its technical representation using SDN architectural concepts, attempting to contribute to discussions and work emerging/ongoing in the industry, including other standards development organizations. By providing a complete view of all resources required to serve a business purpose, the SDN architecture supports the key principles of Slicing in a network.

As a conceptual framework for a standardized platform supporting Network Slicing, it can serve as one of the technical building blocks to fulfil the business requirements for the fifth generation of mobile technology (5G).

Applying the SDN architecture, an SDN controller's Client Context provides the complete abstract set of resources and supporting control logic for constituting a slice, including the complete collection of related client service attributes.

As such, a 5G slice is comparable to, if not the same as, an SDN client context, isolated by the controller's virtualization and client policy functions and continuously optimized by the orchestration and global policy functions. The released document is available at

https://www.opennetworking.org/images/stories/downloads/sdn-resources/technical-reports/Applying_SDN_Architecture_to_5G_Slicing_TR-526.pdf.

We invite you to consider the concepts described and would be pleased to receive any feedback you may consider appropriate, including any further considerations you may have regarding the enablement of slicing using SDN. We would also like inform you that the ONF Mobile Network Working Group has initiated work on SDN Enablers for 5G, currently being internal work in progress in an early stage.

At this point the TOC includes: SDN enablers (including SDN Resources, Mobile Network Connection Enablers, North Bound Interface Abstractions), Orchestration and Control of SDN Resources.

Looking forward to support enabling more capabilities on 5G using SDN, we are open to a further and deeper collaboration with you in all related areas.

Chairman's comment: For information only.

Discussion and conclusion:

This LS was **noted**.

TD SP-160277 LS from SA WG1: Response LS on Future Railway Communication System (FRMCS). (SA WG1)

Abstract: SA WG1 thanks ETSI TC RT for the updated version of the user requirement specification (URS) of the Future Railway Mobile Communication System.

In order to start work in 3GPP, SA WG1 have agreed a Rel-15 study item which is attached to this LS for your information.

Chairman's comment: For information only.

Discussion and conclusion:

This LS was **noted**.

[TD SP-160349](#) LS from SA WG5: Reply to LS from ETSI NTECH on Autonomic Networking applied to 3GPP Core and Backhaul parts. (SA WG5)

Abstract: SA WG5 would like to thank ETSI TC NTECH for your LS on 'LS on Autonomic Networking applied to 3GPP Core and Backhaul parts'.

SA WG5 discussed about it. The outcome of the discussion is that SA WG5 would welcome a presentation of draft TR 103 404 (one to two hours conference call).

Discussion and conclusion:

SA WG5 response to [TD SP-160240](#). The SA WG5 Chairman reported that the NTECH work had been sent to them without prior notice of it and they will ask for better coordination of work. This was then [noted](#).

[TD SP-160250](#) LS from PCG: Appreciation for the completion of 3GPP Rel-13 Specifications related to the LTE for Public Safety. (PCG)

Abstract: Dear 3GPP PCG Chair:

On behalf of the Ministry of Science, ICT and Future Planning (MSIP), I would like to express my sincere appreciation on 3GPP's endeavours for standardization related to LTE for Public Safety.

As all you are well aware, the Korean government decided to adopt LTE for the nationwide broadband public safety network in 2014, to response to the urgent need for information sharing and communication among public safety agencies in Korea.

The decision was made based on the belief that 3GPP would complete all specifications related to public safety features within the 3GPP Rel-13 timeframe.

There is no doubt that 3GPP Rel-13 was one of the most challenging releases in 3GPP history. Nonetheless, 3GPP Rel-13 was frozen at the previous March TSG meeting in Gothenburg with the most significant item 'MCPTT'.

To achieve this, SA WGs and CT WGs assigned the highest priority to the MCPTT WI and RAN WGs committed to the functional freezing of eD2D on time. With such efforts by all 3GPP Work Groups, it is expected that the national LTE network for public safety will be deployed as planned in Korea as well as in U.S. and UK, based on the 3GPP Rel-13 specifications completed in March 2016.

Once again, appreciating all 3GPP delegates' dedication and commitment to the standardization, I believe 3GPP's endless effort will continuously contribute to the advancement of mobile communication technology and market.

Discussion and conclusion:

This LS was presented and [noted](#).

[TD SP-160238](#) LS from GSMA: GSMA IoT Security Guidelines. (GSMA)

Abstract:

Summary

The GSMA would like to inform you of the publication of our IoT Security Guidelines. Any feedback you have on the guidelines would be welcomed by 30th June 2016. Introduction It is widely acknowledged that the emergence of the Internet of Things (IoT) will create thousands of new services that will connect billions of new IoT devices over the next decade.

It is also understood that the providers of these new services are often unaware of the cyber security threats their services will face, and may not have the experience to mitigate these risks. In contrast, their adversaries understand the technology and security weaknesses, quickly taking advantage of these if vulnerabilities are exposed.

The GSMA has created a set of security guidelines for the benefit of service providers who are looking to develop new IoT services. The document set will also be of interest to IoT Device Manufacturers, IoT Service Platform Vendors, IoT Developers and Network Operators. GSMA IoT Security Guidelines Document Set The guidelines promote a methodology for developing secure IoT services to ensure best practices are implemented throughout the life cycle of the service.

The documents provide recommendations on how to mitigate common security threats and weaknesses within IoT services. Particular focus is given to the security of endpoint device and service platform ecosystems. It should be noted that the guidelines are not necessarily intended to drive the creation of new IoT specifications or standards, but they try wherever possible to refer to currently available solutions, standards and best practice

The guidelines can be downloaded from here: <http://www.gsma.com/connectedliving/future-iot-networks/iot-security-guidelines/> Request The guidelines make recommendations made upon existing, deployed security standards and technology wherever possible. We are not requesting a formal review of the document set, however would welcome any informal feedback your members might have on the documents.

In particular we are keen to understand:

- If there is duplication with any existing IoT security guidelines or initiatives, and if so how could consolidate any such duplication.
- If any security standards that are widely deployed today are not referenced within the current version of the guidelines?
- What forthcoming security standards may need to be referenced in a future release of the guidelines?

Informal feedback can be sent directly to the GSMA contact below. Work Plan for 2016/17

The GSMA will continue to work on matters related to IoT security in 2016 and beyond.

If you would like to contribute to our work or find out more about our work please email the GSMA contact below.

Discussion and conclusion:

This LS was presented and [noted](#).

[TD SP-160278](#) LS from SA WG3: LS on Progress on Security for LWIP. (SA WG3)

Abstract: SA WG3 would like to inform TSG RAN and TSG SA about progress in security for LWIP. In the course of the current meeting, SA WG3 has discovered further open issues in security, that need to be fixed before LWIP standardization can be finalized.

The security issues include:

- Enforcement of binding of authenticated UE to its IP address in the SeGW
- Protocol to be used between eNB and SeGW to convey security parameters
- Protection of access to the eNB, such as hiding its IP address

Interested companies in SA WG3 have agreed to work towards a CR to be submitted to TSG SA plenary #72 in order to solve these open security issues.

Action: SA WG3 kindly asks TSG RAN and TSG SA to take the above into consideration.

Discussion and conclusion:

Response drafted in [TD SP-160450](#). The related CR in [TD SP-160441](#) was reviewed. Final response in [TD SP-160457](#).

[TD SP-160450](#) (LS OUT) [DRAFT] Response LS on Progress on Security for LWIP. Response to: LS [TD SP-160278](#) on LS on Progress on Security for LWIP from SA WG3.

Discussion and conclusion:

LATE DOC: Response to [TD SP-160278](#). The attachment should be changed if the CR is approved. This was revised off-line in [TD S2-160457](#) which was reviewed and [approved](#).

TD SP-160276 LS from ITU-T SG13: LS on 'Report on standard gap analysis', from ITU-T Focus Group on IMT-2020 and on extension of lifetime of Focus Group IMT-2020. (ITU-T SG13) (Revision of [TD SP-160142](#)).

Abstract: At its meeting in Geneva, 20 April - 1 May 2015, ITU-T Study Group 13 (SG13) established the ITU-T Focus Group on IMT-2020 (FG IMT-2020) to identify the standards gaps for the '5G' development of International Mobile Telecommunications (IMT) for 2020 and beyond on the non-radio related network parts. At the recent SG13 meeting, the Focus Group delivered the requested gap analysis. It is based on the studies on several key technical topics related to the non-radio aspects of IMT-2020. It identifies and describes 85 gaps in five technical areas in the context of IMT-2020 networks:

- (1) High-level network architecture;
- (2) Network softwarization;
- (3) End-to-end quality of service;
- (4) Front haul / back haul;
- (5) Emerging networking technologies - ICN.

The complete analysis for your consideration is in Annex 1.

Furthermore we would like to inform you that SG13 has extended the lifetime of the focus group until 31 December 2016 with the new Terms of Reference shown in Annex 2. For FG IMT-2020 meeting announcements and updates please sign up for the FG IMT-2020 mailing list (TIES or free ITU Guest account required), or consult the Focus Group website:

<http://itu.int/en/ITU-T/focusgroups/imt-2020/>.

SG13 appreciates your interest and continuous collaboration on this topic.

Discussion and conclusion:

Resubmission of LS at SP#71 ([TD SP-160142](#)). Supporting information for LS in [TD SP-150248](#). This was [noted](#).

TD SP-160248 LS from ITU-T Study Group 13: LS on 'Report on standard gap analysis', from ITU-T Focus Group on IMT-2020 and on extension of lifetime of Focus Group IMT-2020: Request for feedback. (ITU-T Study Group 13)

Abstract: At its meeting in Geneva, 30 November until 11 December 2015, ITU-T Study Group 13 (SG13) informed 3GPP on the gap analysis delivered by the ITU-T Focus Group on IMT-2020 (FG IMT-2020) to identify the standards' gaps for the '5G' development of International Mobile Telecommunications (IMT) for 2020 and beyond on the non-radio related network parts.

It is based on the studies on several key technical topics related to the non-radio aspects of IMT-2020. It identifies and describes 85 gaps in five technical areas in the context of IMT-2020 networks:

- (1) High-level network architecture;
- (2) Network softwarization;
- (3) End-to-end quality of service;
- (4) Front haul / back haul;
- (5) Emerging networking technologies - ICN.

ITU-T SG13 is very interested in a continuous successful collaboration on this topic without duplication of work by both organization.

Therefore, ITU-T SG13 requests 3GPP on its view related to the gaps that have been identified by the Focus Group and your plans in this regard.

Discussion and conclusion:

Supporting Gap analysis LS in [TD SP-160276](#). Final response in [TD SP-16458](#).

TD SP-160251 [DRAFT] Reply LS on LS/o on 'Report on standard gap analysis', from ITU-T Focus Group on IMT-2020 and on extension of lifetime of Focus Group IMT-2020: Request for feedback. (TSG SA Chairman)

Abstract: Reply LS to ITU-T SG13 concerning Gap Analysis and collaboration.

Discussion and conclusion:

Response to [TD SP-160248](#). This was revised to remove 'draft' in [TD SP-160458](#) which was [approved](#).

[TD SP-160447](#) LS from NGMN: Vertical industry application perspectives and implications for 5G. (NGMN).

Abstract:

Intention of the LS and required actions: The NGMN Requirements and Architecture (P1) group has now developed its initial views on the vertical industry application perspectives and implications for 5G in growing interaction with, engagement of, and input from the verticals industries.

NGMN P1 would like to share a document summarizing its current views on a number of selected vertical industry use cases. NGMN P1 would like to ask 3GPP to consider for adoption the technical performance requirements, perspectives and implications summarized in the attached document as input, while developing requirements and technology for 5G.

Please note that NGMN P1 is continuing further work to address additional vertical industry use cases currently not covered in the attached document, and is willing to provide further inputs to 3GPP once these views have been outlined.

Discussion and conclusion:

This was also sent to SA WG1 and were asked to copy TSG SA on any reply they have to this LS. This was then [noted](#).

7 Reports from SA Working Groups and other TSGs

7.1 SA WG1 Report and Questions for Advice

[TD SP-160351](#) (REPORT) SA WG1 Report to TSG SA#72. (Source: SA WG1 Chairman).

Abstract: Report of SA WG1 activities.

Work Summary:

Rel-13 and earlier corrections:

TEI13: Agenda item 13G Agreed CRs:

SP-160352	S1-161315	Removal of list of EPS Applicable Specifications	22.278	0228r1	Rel-13
	S1-161301	Extension of periodic network selection attempts interval	22.011	0235r1	Rel-13
	S1-161087	Extension of periodic network selection attempts interval	22.011	0236r-	Rel-14
Remarks:	22278CR0228r1 contains a request for a change to MCC maintained specification 21.201 to reflect the status of 22.234 (I-WLAN specifications) 22011CR0235r1 and mirror are result of an incoming LSs from RAN2 (R2-161945) and CT1 (C1A160029)				

SEES: Agenda item 13A. Agreed CRs:

SP-160352	S1-161315	Removal of list of EPS Applicable Specifications	22.278	0228r1	Rel-13
SP-160353	S1-161593	Addition of Cellular IoT non-IP transport to exposed services and capabilities	22.101	0517r2	Rel-13
	S1-161594	Addition of Cellular IoT non-IP transport to exposed services and capabilities	22.101	0518r1	Rel-14
Remarks:	CRs to add requirements on service capability exposure for Non-IP Data Delivery				

Rel-14 corrections:

USOS: Agenda item 14.14 Agreed CRs:

SP-160354	S1-161318	Update on accounting requirement for unlicensed access	22.115	0082r1	Rel-14
Remarks:	CR to clarify why usage data with USOS is collected				

TEI14: Agenda item 14.24 Agreed CRs:

SP-160355	S1-161616	Clarification on local supervisory tones rendering	22.173	0114r2	Rel-14
Remarks:	CR to clarify the rendering of supervisory tones by the UE; the previous text appeared to cause confusion in CT1				

Stage 1 Rel-14 Work Items:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Password based service activation for IMS Multimedia Telephony service	PWDIMS	100%	100%	WID approved 03/2015 Completed 03/2015
Multimedia Priority Service (MPS) Modifications	MPS_Mods	100%	80%	WID approved 03/2015 Completed 05/2016 [SA1]
Enhancing Location Capabilities for Indoor and Outdoor Emergency Communications	ELIOT	100%	100%	WID approved 03/2015 Completed 03/2016
LTE support for V2X services	V2XLTE	100%	90 %	WID approved 09/2015 Completed 05/2016 [SA1]
Enhancements to Domain Selection between VoLTE and CDMA CS	eDSVCC	100%	100%	WID approved 03/2015 Completed 06/2015
Enhancements to User Location Reporting Support	eULRS	100%	100 %	WID approved 09/2015 Completed 03/2016
Control of Applications when Third party Servicers encounter difficulties	CATS	100%	100 %	WID approved 06/2015 Completed 09/2015
Evolution to and Interworking with eCall in IMS	EIEI	100%	100%	WID approved 06/2015 Completed 06/2015
Mission Critical Improvements - Mission Critical Services Common Requirements	MCImp -MCCoRe	100%	75%	WID approved 12/2015 Completed 05/2016 [SA1]
Mission Critical Improvements - Mission Critical Push to Talk over LTE Realignment	MCImp -MCPTT-R	100%	75%	WID approved 12/2015 Completed 05/2016 [SA1]
Mission Critical Improvements - Mission Critical Video over LTE	MCImp -MCVideo	100%	80%	WID approved 12/2015 Completed 05/2016 [SA1]

Mission Critical Improvements - Mission Critical Data over LTE	MCImp -MCDATA	100%	80%	WID approved 12/2015 Completed 05/2016 [SA1]
3GPP Enhancement for TV service	EnTV	100%	100%	WID approved 12/2015 Completed 03/2016
3GPP PS Data Off Services	PS_Data_Off	100%	100%	WID approved 12/2015 Completed 03/2016
Paging Policy Enhancements and Procedure Optimizations in LTE	PPEPO_LTE	100%	100%	WID approved 03/2016 Completed 03/2016
Enhancement to FMSS for Rel-14	eFMSS	100%	100%	WID approved 03/2016 Completed 03/2016
Unlicensed Spectrum Offloading System enhancements	USOS	100%	100%	WID approved 03/2016 Completed 03/2016
Remote UE access via relay UE	REAR	95%	-	WID approved 03/2016 Completed 05/2016 [SA1]

MPS_Mods:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Multimedia Priority Service (MPS) Modifications	SA#72 (06/2016)	100%	80 %	WID approved 03/2015 Completed 05/2016 [SA1]

V2XLTE:

Work Item	WI Code	06/2016	03/2016	SA1 Status
LTE support for V2X services	SA#71 (03/2016)	100%	90%	WID approved 09/2015 Completed 05/2016 [SA1]
Progress on TS 22.185: Informative annex to show relation of background information for service requirements Descriptive text on relative priority of V2X communication Correction of a missing figure and clarification of transmission frequency requirement Remarks: V2X privacy requirements require further work in SA1#75 (based on an incoming LS from SA3)				

MCImp-MCCoRe:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Mission Critical Improvements - Mission Critical Services Common Requirements	SA#71 (03/2016) - > SA#72 (06/2016)	100%	75%	WID approved 12/2015 Completed 05/2016 [SA1]
Progress on TS 22.280: Agreed and executed a process for adjudication of requirements from MCPTT, MCVideo, and MCDData Created/revised definitions Completed all MCPTT/MCDData/MCVideo analysis for MCCoRe Remarks: TS 22.280 is presented to this plenary for approval (SP-160358 == S1-161269 (TS); S1-161609 (cover page))				

MCImp-MCPTTR:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Mission Critical Improvements - Mission Critical Push to Talk over LTE Realignment	SA#71 (03/2016) - > SA#72 (06/2016)	100%	75%	WID approved 12/2015 Completed 05/2016 [SA1]
Progress on TS 22.179: Analysis of TS 22.179 requirements for inclusion into TS 22.280, all MCPTT requirements have now been analysed One CR agreed to remove requirements, on which there is consensus that they are common One CR agreed to introduce a "first to answer" commencement mode for private calls One CR agreed to provide traceability of a change in MCPTT related requirements that have been moved to 22.280				

MCImp-MCVideo:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Mission Critical Improvements - Mission Critical Video over LTE	SA#71 (03/2016) - > SA#72 (06/2016)	100%	80%	WID approved 12/2015 Completed 05/2016 [SA1]
Progress on TS 22.281: Service descriptions added Rewording of requirements Alignment with MCCoRe Remarks: TS 22.281 is presented to this plenary for approval (SP-160360 == S1-161271 (TS); S1-161272 (cover page))				

MCImp-MCDData:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Mission Critical Improvements - Mission Critical Data over LTE	SA#71 (03/2016) - > SA#72 (06/2016)	100%	80%	WID approved 12/2015 Completed 05/2016 [SA1]
Progress on TS 22.282: Service descriptions added Alignment with MCCoRe Final rewording of requirements Remarks: TS 22.282 is presented to this plenary for approval (SP-160361 == S1-161273 (TS); S1-161274 (cover page))				

REAR:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Remote UE access via relay UE	SA#72 (03/2016)	95%	-	WID approved 03/2016 Completed 05/2016 [SA1]
Progress on 22.278: Agreed a CR to add a description of Indirect 3GPP Communication and to clarify that Evolved ProSe UE-to-Network Relay is no longer restricted to Public Safety use				

Agreed a CR to add a description of relay UE selection

Progress on 22.115:

Agreed a CR to add requirements for collection of charging data for an Evolved ProSe Remote UE using Indirect 3GPP Communication

Remarks:

Revised WID presented for approval at this plenary in SP-160363 == S1-161606

Revised WID clarifies that the Evolved ProSe UE-to-Network Relay is based on an evolution of ProSe Rel-12 / Rel-13 concepts for ProSe UE-to-Network Relay catering for existing Public Safety requirements and new wearables requirements

As this WID was completed in one SA1 meeting, further corrections may be needed.

Stage 1 Rel-15 Work Items:

Work Item	WI Code	06/2016	03/2016	SA1 Status
New Services and Markets Technology Enablers	SMARTER	0%	-	New WID

SMARTER:

Work Item	WI Code	06/2016	03/2016	SA1 Status
New Services and Markets Technology Enablers	SA#75 (03/2017)	0%	-	New WID

Progress:

Agreed a Work Item Description for specifications of normative requirements

Agreed a first skeleton for a Technical Specification

Remarks:

New WID presented for approval at this plenary in SP-160364 == S1-161589

The objective is to specify requirements in order to enable the new services and markets based on the results of the SMARTER studies: Enhanced Mobile Broadband, Critical Communications, Massive Internet of Things, and Network Operation.

Subject to completion and conclusion of the 5G V2X study, this WID may be expanded to incorporate the results of the 5G V2X study

Study Items:

Study Item	WI Code	06/2016	03/2016	SA1 Status
New Services and Markets Technology Enablers	FS_SMARTER	100%	95%	WID approved 03/2015 Completed 05/2016 [SA1]
Study on New Services and Markets Technology Enablers - massive Internet of Things	FS_SMARTER-mIoT	100%	65%	WID approved 12/2015 Completed 05/2016 [SA1]
Study on SMARTER Critical Communications	FS_SMARTER-CRIC	100%	60%	WID approved 12/2015 Completed 05/2016 [SA1]
Study New Services and Markets Technology Enablers - enhanced Mobile Broadband	FS_SMARTER-eMBB	100%	75%	WID approved 12/2015 Completed 05/2016 [SA1]
Study on New Services and Markets Technology Enablers - Network Operation	FS_SMARTER-NEO	95%	60%	WID approved 12/2015 Completed 05/2016 [SA1]
Study on Enhancement of 3GPP support for V2X service	FS_eV2X	30%	-	New SID
Study on Future Railway Mobile Communication System	FS_FRMCS	0%	-	New SID

FS_SMARTER:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Study on New Services and Markets Technology Enablers	SA#71 (03/2016)	100%	95%	WID approved 03/2015 Completed 05/2016 [SA1]

Progress on 22.891:

Agreed a CR to add a education specific text to the descriptive parts of relevant existing use cases

Agreed a CR with editorial modifications

Remarks:

The work on 22.891 is 100% complete.

From the four BB SIDs under FS_SMARTER, 3 are at 100% and one is at 95% complete.

FS_SMARTER-mIoT:

Work Item	WI Code	06/2016	03/2016	SA1 Status
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Study on New Services and Markets Technology Enablers - massive Internet of Things	SA#72 (06/2016)	100%	65%	WID approved 12/2015 Completed 05/2016 [SA1]
Progress: Completed consolidation of potential requirements, considerations, conclusion and recommendations New traffic scenarios added, and updates to the potential requirements Editorial clean-up and alignment with other FS_SMARTER TRs Remarks: TR 22.861 is presented to this plenary for approval (SP-160366 == S1-161279 (TR); S1-161280 (cover page))				

FS_SMARTER-CRIC:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Study on New Services and Markets Technology Enablers - Critical Communications	SA#72 (06/2016)	100%	60%	WID approved 12/2015 Completed 05/2016 [SA1]
Progress: Clean up of descriptions agreed Mission critical services text rewritten Considerations on charging and security agreed Consolidation of requirements Conclusion and recommendations agreed Remarks: TR 22.862 is presented to this plenary for approval (SP-160367 == S1-161612 (TR); S1-161613 (cover page))				

FS_SMARTER-eMBB:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Study New Services and Markets Technology Enablers - enhanced Mobile Broadband	SA#72 (06/2016)	100%	75%	WID approved 12/2015 Completed 05/2016 [SA1]
Progress: 2 new use case families were included Security clause was completed eMBB requirements cleanup Consolidation of requirements Conclusions agreed Remarks: TR 22.863 is presented to this plenary for approval (SP-160368 == S1-161283 (TR); S1-161614 (cover page))				

FS_SMARTER-NEO:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Study on New Services and Markets Technology Enablers - Network Operation	SA#72 (06/2016)	100%	60%	WID approved 12/2015 Completed 05/2016 [SA1]
Progress: New requirements and updates of existing requirements Clean up of the TR Abbreviations added Considerations on charging and security added Consolidation of requirements Conclusions and Recommendations agreed Remarks: TR 22.864 is presented to this plenary for approval (SP-160369 == S1-161285 (TR); S1-161615 (cover page)) The TR is at 95% and not at 100% because of a final cleanup is still expected for SA1#75				

FS_eV2X:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Study on Enhancement of 3GPP support for V2X service	SA#74 (12/2016)	30%	-	New SID
Progress: TR skeleton and scope agreed 6 use cases agreed (Vehicle platooning, information exchange with platoon, automated cooperative driving, collective perception of environment, sensor and state map sharing, remote driving) Remarks: New SID presented for approval at this plenary in SP-160370 == S1-161600 The objective of this study is to identify use cases and requirements to enhance 3GPP support for V2X service in the following areas: Support for non-safety services (e.g. connected vehicle, ...) Support for safety related service (e.g. autonomous driving, car platooning, ...)				

Support for V2X services in multiple 3GPP RATs and interoperability with non-3GPP V2X technologies
The study will consider both evolved LTE RAT and new 3GPP RAT (e.g. NR)

FS_FRMCS:

Work Item	WI Code	06/2016	03/2016	SA1 Status
Study on Future Railway Mobile Communication System	SA#74 (12/2016)	0%	-	New SID
Remarks: New SID presented for approval at this plenary in SP-160371 == S1-161588 Objective is to analyse the UIC/ETSI TC-RT NG2R document on "Future Railway Mobile Communication User Requirements Specification" with the purpose of - A gap analysis between the requirements identified and existing 3GPP functions and specifications. - Analyse interworking with GSM-R - Suggest normative 3GPP work based on the outcome of the gap analysis				

Questions and comments:

- Slide 27: It was clarified that the REAR Work Item is evolved ProSe network to UE Relay access and is different from the technology choices taken for Rel-12. It was asked if this is intended to be a Layer 2 Relay for Rel-14. The SA WG1 Chairman added that the stage 1 specification does not assume the solution. It was reported that there are discussions on this in TSG RAN. Blackberry commented that it would be expected that a Rel-14 Relay UE will work in a Rel-13 network. Such issues should be discussed in the relevant WGs.
- Slide 24: Blackberry commented that there had been discussion on the CR in [TD SP-160359](#) which cannot be implemented. The SA WG1 Chairman explained that the functionality had been removed in Rel-13 and modified in the MCCore TS and this Rel-14 CR was created to provide traceability of this change, but the changed text does not appear in the Rel-14 TS and the CR is written to Rel-13 text. The UK Home Office commented that if the CR is revised to show it is a change to the Rel-13 version this may give traceability, even though it would result in no change to the Rel-14 TS. The TSG SA Chairman commented that the TS History table could be used to document this change, rather than tracking through the CR database. Companies were asked to discuss this off-line to try to find an acceptable way of documenting the changes made to the MCPTT requirements. SA WG6 could also document this change in their annex of changes made.
- Slide 13: Morpho Cards reported that there are issues with the CRs in [TD SP-160352](#) from the CT WG6 point of view. The TSG CT Chairman considered this an issue between CT WG1 and CT WG6 and should not be resolved in TSG SA until it has been discussed in CT WGs. Morpho Cards disagreed that this is a CT WGs issue.

The SA WG1 Chairman was thanked for this report, which was then [noted](#).

7.2 SA WG2 Report and Questions for Advice

[TD SP-160283](#) (REPORT) Status report from SA WG2 to TSG SA#72. (Source: SA WG2 Chairman).

Abstract: Report of SA WG2 activities.

Rel-12 and before Maintenance:

- Work Progress on Corrections
- TEI extensively used to maintain past stable releases

Rel-13 Work and Maintenance:

- Work Progress on Corrections

WI	Work Item	WP	CRs approved
MCPTT	Mission Critical Push to Talk over LTE	100%	3
DECOR	Dedicated Core Networks	100%	
NBIFOM	IP Flow Mobility support for S2a and S2b interfaces	100%	6
AESE	Architecture Enhancements for Service Exposure	100%	1
MONTE	Monitoring Enhancements	100%	4
GROUPE	Group based Enhancements	100%	
eWebRTC	Enhancements to WEBRTC interoperability	100%	
eProSe-Ex-SA2	Enhancements to Proximity-based Services - Extensions	100%	1
FMSS	Flexible Mobile Service Steering	100%	1
HLCOM	Optimizations to Support High Latency Communications	100%	2
IOPS_St2	Isolated E-UTRAN Operation for Public Safety	100%	
eDRX	Extended DRX	100%	6
MBMS_enh_St2	MBMS Enhancements	100%	
SEW1	Support of Emergency services over WLAN - Phase 1	100%	1
CIoT	Cellular Internet of Things	100%	34
TEI13 Cat B/C	None: Enhancement and Improvement CRs for 3GPP Packet Access, PCC/QoS, Non-3GPP access or IMS-Related/IMS features.	100%	

CIoT:

WI	Work Item	WP
CIOT	Cellular Internet of Things	95 > 100%
Progress since SA#71 Large number of LSs exchanged with RAN2/3 and CT1/4 WGs. Remaining issues on - a) Rate and/or AMBR control for the CP solution, b) determining any MTU size for the CP data path, c) simultaneous support for CP and UP solution for single/multiple bearers, and d) any confirmation of data buffering from MME towards SCEF, were resolved. A set of 34 CRs is agreed on clarifying remaining issues and aligning with RAN and CT WG's work. Next steps: Maintenance continues.		

Rel-14 Work and Maintenance:

WI	Work Item	WP
FS_SEW2	Study on Support of Emergency services over WLAN	75 > 100%
"SEW2"	Support of Emergency services over WLAN	0 > 45%
Progress since SA#71 The study concluded and is submitted for approval. A related WID is agreed by SA2 and submitted for approval. Some normative work conducted. 9 CRs agreed. Next steps: Continue the normative work, when the WID is approved.		
FS_V8	Study on S8 Home Routing Architecture for VoLTE	80 > 100%
"V8"	S8 Home Routing Architecture for VoLTE	0 > 60%
Progress since SA#71 The study concluded and is submitted for approval. A related WID is agreed by SA2 and submitted for approval. Some normative work conducted. 3 CRs agreed. Next steps: Continue the normative work, when the WID is approved.		
FS_eDECOR	FS on Enhancements of Dedicated Core Networks selection mechanism	80 > 95%
"eDECOR"	Enhancements of Dedicated Core Networks selection mechanism	0 > 70%
Progress since SA#71 Main feature solving Key Issue #1 "DCN selection by UE assistance" is concluded. Key Issues #2 and #3 are not yet concluded. The study TR is provided for information. A related WID is agreed by SA2 and submitted for approval. Some normative work conducted. 2 CRs agreed. Next steps: Conclude on the remaining key issues. Continue the normative work, when the WID is approved.		
FS_CUPS	Feasibility Study on Control and User Plane Separation of EPC nodes	40 > 100%
Progress since SA#71 The study concluded and is submitted for approval. A related WID is agreed by SA2 and submitted for approval. Next steps: Start the normative work, when the WID is approved.		

FS_AULC	Study on improvement of awareness of user location change	70 > 100%
"AULC"	Improvement of awareness of user location change	0 > 10%
Progress since SA#71 The study concluded and is submitted for approval. A related WID is agreed by SA2 and submitted for approval. Related CRs were discussed, but none yet agreed. Next steps: Continue the normative work, when the WID is approved.		
FS_NexGen	Study on Architecture for Next Generation System	15 > 35%
Progress since SA#71 About 90 agreed tdocs with new or updated key issues, assumptions, solutions for the TR. Current work focuses on the key issues that are identified as relevant for a complete initial system. Most of the scheduled items progress reasonably. Some interim agreements on a few aspects from slicing and QoS. Work Task descriptions introduced for better managing large key issues. Joint session with RAN 2 and RAN3. See next slide. Meeting resources ramped up during Q2 to about 2.5 session streams, mainly adding NG sessions (but also due to CIoT workload). SA2#115 had an almost continuous stream of sessions on NG. Only two TUs were not on NG. At current stage a larger number of revision sessions is needed for NG. Next steps: Continue the study.		
Joint session with RAN2 and RAN3, intended to update each other on: 1) AN and CN variants/scenarios considered by the WG specific studies 2) slicing and 3) AN-CN function split On 2) and 3) is was mainly about presenting the status reached by each WG at this early stage. Main discussion was on 1). Basically on the scenario where the New Radio tightly interworks with LTE and connects to EPC, which is considered by RAN. SA2 had discussed it earlier and assumed that there are no architectural impacts from such a scenario. If a need for SA2 work on this is identified, a WI may be proposed. SA2's study includes only NG AN and NG CN. Some companies raised concerns that with multiple scenarios there may be issues, which may need to be considered under the migration and interworking key issue of SA2's study. SA2 hasn't started to look into interworking and migration aspects. Some discussion was on what comprises an "evolved LTE". While RAN3 considers an evolved eNB that supports connectivity to EPC and NG CN, SA2's study considers only an LTE that evolves for being deployed together with the NG CN.		
FS_SeDoC	Study on Service Domain Centralization	30 > 70%
Progress since SA#71 Solutions were updated and new solutions proposed. All key issues have solutions. Most key issues are evaluated and concluded. The study TR is provided for information. It is expected that the study concludes during SA2#116 and related normative work may be accomplished during SA2#116 bis, both before SA#73. Next steps: Conclude the study and do the normative work, when a WI is agreed.		
FS_SDCI	Study on sponsored data connectivity improvements	40 > 100%
Progress since SA#71 The study concluded and is submitted for approval. A related WID is agreed by SA2 and submitted for approval. Next steps: Start the normative work, when the WID is approved.		
FS_V2XARC	Study on architecture enhancements for LTE support of V2X services	22 > 80%
Progress since SA#71 Solutions were updated and new solutions proposed. Some key issues are evaluated and concluded. The study TR is provided for information. A related WID is agreed by SA2 and submitted for approval. It is expected that the study concludes during SA2#116 and that related normative work is accomplished during SA2#116 bis, both before SA#73. Next steps: Conclude the study. Start the normative work, when the WID is approved.		
EIEI	Evolution to and interworking with eCall in IMS	20 > 100%
Progress since SA#71 4 related CRs are agreed by SA2 and providing for approval. Next steps: Changes to maintenance.		
EWE	EIR check for WLAN access to EPC	60 > 100%
Progress since SA#71 2 related CRs are agreed by SA2 and are submitted for approval. Next steps: Changes to maintenance.		

nonIP_GPRS	Non-IP for Cellular IoT for EC-EGPRS	0 > 50%
Progress since SA#71 2 related CRs are agreed by SA2 and are submitted for approval. Next steps: To be completed.		
FS_robVoLTE	Study on Robust call setup for VoLTE subscriber in LTE	20 > 100%
Progress since SA#71 The study concluded and is submitted for approval. A related WID is agreed by SA2 and submitted for approval. Next steps: Start the normative work, when the WID is approved.		
FS_AE_enTV	Study on System Architecture Enhancements to eMBMS for TV Video Service	0 > 70%
Progress since SA#71 Solutions were updated and new solutions proposed. Most key issues are evaluated and concluded, while awaiting RAN2/3 feedback for some It is expected that the study concludes during SA2#116 and related normative work may be accomplished during SA2#116 bis, both before SA#73. Next steps: Conclude the study and do the normative work, when a WI is agreed.		
TEI14 Cat B/C	None: Enhancement and Improvement CRs for 3GPP Packet Access, PCC/QoS, Non-3GPP access or IMS-Related/IMS features.	N/A
Progress since SA#71 Under non3GPP access, support of EAP Re-authentication (as specified in RFC 6696) for WLAN Interworking has been introduced.		

New and Updated WIDs/SIDs:

- New WID on Robust Call Setup for VoLTE subscriber in LTE, [TD SP-160312](#)
- New WID on The Support of Emergency services over WLAN - phase 2, [TD SP-160307](#)
- New WID on Improvements of awareness of user location change, [TD SP-160308](#)
- New WID on Sponsored data connectivity improvements, [TD SP-160309](#)
- New WID on Enhancements of Dedicated Core Networks selection mechanism, [TD SP-160310](#)
- New WID on T-ADS supporting WLAN Access, [TD SP-160313](#)
- New WID on Enhancement to FMSS, [TD SP-160314](#)
- New WID on Control and User Plane Separation of EPC nodes, [TD SP-160316](#)
- New WID on Architecture enhancements for LTE support of V2X services, [TD SP-160317](#)
- New WID on Group based enhancements in the network capability exp. fct., [TD SP-160311](#)
- New WID on S8 Home Routing Architecture for VoLTE, [TD SP-160315](#)
- New Study on PS Data off function, [TD SP-160318](#)
- New Study on Complementary Features for Voice services over WLAN, [TD SP-160320](#)
- New Study on Extended architecture support for Cellular Internet of Things, [TD SP-160319](#)
- Revised Study on Service Domain Centralization, [TD SP-160306](#)
- Revised WID on Architecture enhancements for Cellular Internet of Things, [TD SP-160305](#)

IETF and External SDO Normative Reference Update:

- No new IETF or other SDO dependencies in SA2 specifications.

Collected Items requiring action from TSG SA:

- Consider whether to approve proposed/updated WIDs.
- Consider approval of the TRs that are submitted for approval.

Questions and comments:

General: It was clarified that CRs which use of DUMMY WI Code for new WIs will not need to be revised, but MCC will update the CR Database with the correct WI Codes once they are available in the Work Plan.

The SA WG2 Chairman was thanked for this report, which was then [noted](#).

7.3 SA WG3 Report and Questions for Advice

[TD SP-160372](#) (REPORT) SA WG3 Status Report. (Source: SA WG3 Chairman).

Abstract: Report of SA WG3 activities.

Summary:

- WIDs and SIDs for approval:
 - Work Item on Security Assurance Specification for PGW (SP-160373)
 - Study on Mission Critical Security Enhancements (SP-160374)
 - Release 14 LI work item (SP-160375)

- Specs sent for approval:
 - TR 33.926 "Security Assurance Specification (SCAS) Threats and Critical Assets in 3GPP Network Product Class" (SP-160392)
- Specs sent for information:
 - TS 55.241 "Specification of the GIA4 encryption algorithms for GPRS; GIA4 specification" (SP-160377)
 - TS 55.242 "Specification of the GIA4 encryption algorithms for GPRS; Implementers' test data" (SP-160378)
 - TS 55.243 "Specification of the GIA4 encryption algorithms for GPRS; Design conformance test data" (SP-160379)
 - TS 55.251 "Specification of the GEA5 and GIA5 encryption algorithms for GPRS; GEA5 and GIA5 algorithm specification" (SP-160380)
 - TS 55.252 "Specification of the GPRS confidentiality and integrity algorithms GEA5 and GIA5; Implementers' test data" (SP-160381)
 - TS 55.253 "Specification of the GPRS confidentiality and integrity algorithms GEA5 and GIA5; Design conformance test data" (SP-160382)
- Exception sheet submitted for EASE algorithm WID (SP-160376)
 - LWIP: further security specification is required, see LS (SP-160278)

Status Report on Work Items:

Lawful Interception (LI) - SA3 Approved CRs & R14 WID:

- Rel. 13 CRs to TS 33.106 for approval (SP-160384):
 - CR for Cleanup and reorganization of Appendix B in 33.106
 - Requirement to Toggle Interception for an outbound international roaming Target by the HPLMN
 - Stage 1: Clarification on the stage 1 requirement on security of process
 - Per Service Interception Clarification.
- Rel. 13 CRs to TS 33.107 for approval (SP-160384):
 - Stage 2: TWAN Location for default bearer as well
 - Mega changes to allow Location Services (LCS)
- Rel. 14 LI WID for approval (SP-160375):
 - Release 14 LI work item

Lawful Interception (LI) - SA3 Approved CRs:

- Rel. 13 CRs to TS 33.108 for approval (SP-160384):
 - ProSe ASN.1 Amendments and corrections
 - GCSE ASN.1 Amendments and corrections
 - Correction to remove the compilation error in ASN.1 module of B.3 (UMTS HI2)
 - Correction to remove the compilation error in ASN.1 module of B.5 (HI-Management)
 - Correction to remove the compilation error in ASN.1 module of B.6 (HI3 CS)
 - Correction to remove the compilation error in ASN.1 module of B.7 (HI2 WLAN)
 - Correction to remove the compilation error in ASN.1 module of B.9 (HI2 EPS)
 - Correction to remove the compilation error in ASN.1 module of M.2 (LI Management)
 - Stage 3: TWAN Location for default bearer as well
 - Wrong reference for parameters UE Local IP address and UE UDP port

Lawful Interception (LI) - Other Issues:

- Work Status.
 - S8HR LI study expected for completion for SA Plenary September.
 - Ad-hoc scheduled to accelerate work.
 - S8HR CRs 33.107 targeted for SA#73.
 - S8HR CRs 33.108 targeted for SA#74.
 - S8HR being progressed as SA3-LI priority work area.
 - R13 33.106 now complete.
 - R14 WID submitted for SA approval.
 - R13 33.107 freeze SA#72.
 - R13 33.108 freeze SA#73.
- MCC support in place for SA3-LI#62 (July).
- Latest version of S8HR LI study available in S3i160192.
 - ~55% complete.

SA3 aspects for Mission Critical Push To Talk over LTE (MCPTT):

- Completion rate:
 - TR 33.879 "Study on Security Enhancements for Mission Critical Push To Talk (MCPTT) over LTE" 90%
 - TS 33.179 "Security of Mission Critical Push-To-Talk (MCPTT)" 95%
- New SID/WID for approval (SP-160374):
 - Study on Mission Critical Security Enhancements (SP-160xyz)

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- Mainly clean-up or correction related CRs submitted
- MCPTT (Rel. 13) CRs to TR 33.875 submitted for approval (SP-160383):
 - Evaluation of user authentication and authorisation solutions
 - Remove all references in clause 2 not used
 - Clean up of definition section
 - Adding abbreviations
 - Deletion of ed. notes
 - Evaluation of sensitive application signalling
 - Clean up - scope and clause 6 and 7
 - Clean up - replace of must
 - Clean up - solution 15
 - Clean up - clause 4 and 5
 - Clean up - key issues 17 and 18
 - Clean up - solution 6
 - Clean up - editor's notes
 - Clean up - annex
- MCPTT (Rel. 13) CRs to TS 33.179 submitted for approval (SP-160383):
 - Architectural clarifications and corrections
 - Fix KMS reference points
 - Technical text clarifications
 - Fixing Floor Control Key Management
 - Addition of security overview
 - Sending GMK to unaffiliated users
 - Correction to integrity protection
 - Fix off-network provisioning

Security Aspects of Proximity-based Services (eProSe-Ext-SA3, FS_ProSe_Sec):

- Completion rate:
 - FS_ProSe_Sec, TR 33.833 "Study on Security for Proximity-based Services" 97%
 - Mainly clean-up or correction related CRs submitted
- ProSe-SA3 (Rel. 12) CR to TS 33.303 submitted for approval (SP-160440)
 - Correcting a mis-numbered clause
- eProSe-ext-SA3 (Rel. 13) CRs to TS 33.303 submitted for approval (SP-160385)
 - Corrections to TS 33.303
 - Mandatory confidentiality protection for ProSe Public Safety Discovery
 - Adding a missing FC value to TS 33.303
 - Editorial corrections to TS 33.303
- eProSe-ext-SA3 (Rel. 13) CRs to TS 33.224 submitted for approval (SP-160385)
 - Re-assign the FC values in TS 33.224 to allow an additional one in TS 33.303

Security Aspects of Narrowband IOT (CIoT):

- Completion rate: 80%
- CIoT (Rel. 13) CRs to TS 33.401 for approval (SP-160386)
- Security for RRC suspend and resume
- Partial ciphering mechanism for user data via the MME and NAS COUNTs clarification

Security Assurance Specification for 3GPP Network Products (SCAS-SA3, SCAS-SA3TR, SCAS):

- Completion rate:
 - SCAS-SA3: 78%
 - TS 33.116 "Security Assurance Specification for 3GPP network product classes"
 - TS 33.117 "Catalogue of General Security Assurance Requirements"
 - SCAS-SA3TR: 95%
 - TR 33.916 "TR on Security Assurance scheme for 3GPP network products"
 - SCAS: 100%
 - TR 33.926 "Threats and Critical Assets in 3GPP network product classes"
- TR/TS sent for approval:
 - TR 33.926 "Security Assurance Specification (SCAS) Threats and Critical Assets in 3GPP Network Product Class" (SP-160392)
- TSs expected to be sent for approval in September
- Working with GSMA SECAG on validation of both 3GPP SA3 and NESAS specifications

Security enhancements of EGPRS based cellular systems with support for ultra low complexity and low throughput Internet of Things (EASE_EC_GSM):

- Completion rate: 95%
- EASE_EC_GSM (Rel. 13) CRs to 43.020 submitted for approval (SP-160388):
 - Change the name of the feature to EC-GSM-IoT
 - Clarification on optional inclusion of user plane integrity indication in MS network capability

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- Adding procedural details for ciphering and integrity mode negotiation
- Adding details for new cellular algorithms GIA4, GEA5 and GIA5
- The definition of MAC-GMM in GMM Authentication and Ciphering Request and GMM Authentication and Ciphering Response
- Allocation of FC value to derivation of Ki128 and other changes

LTE - WLAN Aggregation, i.e. LWA & LWIP (LTE_WLAN_Radio-Core):

- LTE_WLAN_Radio-Core (Rel. 13) CRs to TS 33.401 submitted for approval (SP-160390)
 - LWA technical and editorial corrections
 - Risk of User Privacy in LWA
 - LWIP technical and editorial corrections
- LS (SP-160278) sent to RAN and SA explaining that LWIP requires security enhancements

New GPRS algorithms for EASE (EASE_ALGOs_SA3):

- Completion rate: 60%
- TSs submitted for information:
 - TS 55.241 "Specification of the GIA4 encryption algorithms for GPRS; GIA4 specification" (SP-160377)
 - TS 55.242 "Specification of the GIA4 encryption algorithms for GPRS; Implementers' test data" (SP-160378)
 - TS 55.243 "Specification of the GIA4 encryption algorithms for GPRS; Design conformance test data" (SP-160379)
 - TS 55.251 "Specification of the GEA5 and GIA5 encryption algorithms for GPRS; GEA5 and GIA5 algorithm specification" (SP-160380)
 - TS 55.252 "Specification of the GPRS confidentiality and integrity algorithms GEA5 and GIA5; Implementers' test data" (SP-160381)
 - TS 55.253 "Specification of the GPRS confidentiality and integrity algorithms GEA5 and GIA5; Design conformance test data" (SP-160382)

TEI 13:

- Rel. 13 CR to TS 33.220 submitted for approval (SP-160387)
 - Changes to the allocation of FC values

Status Report on Study Items:

Study on EGPRS Access Security Enhancements with relation to cellular IoT (FS_EASE_IoT):

- FS_EASE_IoT (Rel. 13) CRs submitted for approval (SP-160389):
 - Clarification of the editor's note on security of subscriber profile
 - Cleaning TR 33.860 sections 4, 5 and 6 from editor's notes
 - Update of Solution 4 for using the P-TMSI signature for Attach and RAU requests

IMS call spoofing detection and prevention (FS_ESCAPADES):

- Completion rate:
- TR 33.832 "Study on IMS Enhanced Spoofed Call Prevention and Detection"

Study on Battery Efficient Security for very low Throughput Machine Type Communication Devices (FS_BEST_MTC_Sec):

- Completion rate
- TR 33.863 "Study on battery efficient security for very low throughput Machine Type Communication Devices" 98%

Study on architecture enhancements for LTE support of V2X services (V2X-LTE):

- Completion rate
- TR 33.885 "Study on Security Aspect for LTE support of V2X Services " 50%
- Several key issues, threats, requirements and solutions added

Study on Architecture and Security for Next Generation System (FS_NSA):

- Completion rate
- TR 33.899 "Study on the security aspects of the next generation system" 10%
- Large number of documents submitted
- Initial set of security areas were agreed based on which documents were merged
- Several documents were sent for e-mail approval

Questions and comments:

- Slide 24: The EASE_ALGO_SA3 WI was thought to have been approved in Rel-13 but appeared in the specifications database as Rel-14. The MCC Director explained that this was not included in Rel-13 as it was after the Rel-13 freeze date and there was no exception requested for it. The TSG SA Chairman commented that it had been agreed in the PCG to include this work in Rel-13 without the use of exception sheets. Orange commented that this was also marked as Rel-13 in the Work Plan. **It was agreed that these TSs should be considered for approval as Rel-13 TSs.**

- Slide 4: The MCC Director commented that the reference to TS 33.420 is invalid as it has been stopped. This should be checked.
- General: The SA WG3 LI Chairman reported that a request had been made for support from within the group instead of using MCC support and no volunteer had yet been found.
- General: The TSG SA Chairman asked whether the LI aspects of the new WIDs in the 3GPP Work Plan is being considered. the SA WG3 LI Chairman replied that the work is of course contribution driven and all aspects will need to be looked into, but this was challenging from the resources viewpoint.

The SA WG3 Chairman was thanked for this report, which was then [noted](#).

7.4 SA WG4 Report and Questions for Advice

[TD SP-160256](#) (REPORT) SA WG4 Status Report at TSG SA#72. (Source: SA WG4 Chairman).

Abstract: Report of SA WG4 activities.

SA4 progress highlights:

- Rel-13 Exception
 - Enhanced LTE UE delay test methods and requirements (E_LTE_UED) 100% completed
- Rel-14 Work Items
 - 4 Work Items ongoing
- Rel-14 Study Items
 - 5 Study Items ongoing
- Documents at SA#72
 - Total number of CRs: 48 (including 12 Cat. A CRs)
 - Rel-12: 12 CRs (all Cat. F)
 - Rel-13: 32 CRs (1 Cat. C, 19 Cat. F, 12 Cat. A)
 - Rel-14: 4 CR (2 Cat. B, 2 Cat. F)
 - 2 new WIDs and 3 new SIDs

CRs to Features in Rel-13 and earlier (including Rel-13 Exception):

- 44 CRs
 - Rel-12: 12 CRs (all Cat. F)
 - Rel-13: 32 CRs (1 Cat. C, 19 Cat. F, 12 Cat. A)
- Rel-13 Exception
 - Enhanced LTE UE delay test methods and requirements (E_LTE_UED)

Enhanced LTE UE delay test methods and requirements (E_LTE_UED):

- The objective is to develop enhanced LTE UE delay requirements and test methods for terminals impacting TSs 26.131 (requirements) and 26.132 (test methods).
- CRs agreed completing the work:
 - CR (Cat. F) to TS 26.131 on 'Removal of brackets for channel-aware mode delay requirements': The requirements were confirmed at SA4#88 and square brackets (indicating the requirements being FFS) are removed.
 - CR (Cat. C) to TS 26.132 on 'Support of DTX and other corrections': Support of DTX (Discontinuous Transmission) is included and some corrections are made.
- Work 100% complete!

Work progress: Rel-14 Work Items:

Development of super-wideband and full band P.835 test framework, databases, and performance specification (DESUDAPS):

- The objective is to develop super-wideband (SWB) and full band (FB) P.835 test framework, databases and performance specification impacting TSs 26.131 (requirements) and 26.132 (test methods).
- Review of P.835 databases for model validation and preliminary prediction results.
- Response LS received from ETSI TC STQ informing about adjustment of time plan to produce objective predictor for SWB/FB P.835; completion now foreseen by February 2017.
- Permanent Documents (PDs)* progressed:
 - 'Common subjective testing framework for training and validation of SWB and FB P.835 test predictors' (DESUDAPS-1) updated to v. 1.2.
 - 'Requirements for SWB/FB P.835 objective predictor model(s)' (DESUDAPS-2) progressed to v. 0.4.
 - 'Time Plan of DESUDAPS work item' (DESUDAPS-3) updated to v. 0.4 with foreseen completion delayed until SA#75.

- *) PDs are used in SA4 to collect key agreements along the work. They are provided as Tdocs with PD version number associated (in the Tdoc Title with v. 1.0 indicating finalized document) and editor appointed.

MBMS Transport Protocol and APIs (TRAPI):

- The objective is to develop MBMS extensions and profiling (based on conclusions of TR 26.852) providing application-friendly methods and interfaces to access MBMS User Services.
- CR (Cat. F) to TR 26.852 on 'On MBMS URL forms' agreed: makes corrections and clean-up.
- Preparation of TS 26.347 'MBMS; Application Programming Interface and URL' started with v. 0.2.0 created.
 - The main content (in v. 0.2.0) is general definition of MBMS URL Handling (to access resources available as part of an MBMS User Service) and TS overview.
- Detailed time plan updated with no change to foreseen completion date.

Improved Streaming QoE Reporting in 3GPP Services and Networks (IQoE):

- The objective is to develop improved Quality of Experience (QoE) reporting for streaming. Work started at SA4#88.
- Preparation of TR 26.909 'Study on improved streaming Quality of Experience (QoE) reporting in 3GPP services and networks' started with skeleton v. 0.2.0 created.
- LS sent to ITU-T SG12/Q14 asking information about the on-going development of objective assessment model for progressive download and adaptive type media streaming (P.NATS).
- Detailed time plan prepared with no change to foreseen completion date.

Media Handling Extensions of IMS-based Telepresence (IMS_TELEP_EXT):

- The objective is to specify media handling extensions of IMS-based telepresence. Work started at SA4#88.
- CR (Cat. B) to TS 26.223 agreed on 'Introduction of Multi-Stream MTSI (MS-MTSI) Client Capability for TP UEs': The capability introduced earlier for MTSI (in Rel-13) is introduced also for IMS-based telepresence.
- HEVC Screen Content Coding extension support agreed to be included for IMS-based telepresence to improve compression efficiency and quality for video containing a significant portion of graphics, text or animation.
 - LS sent to ITU-T SG16 Q6 and MPEG asking for the latest specification draft of HEVC Screen Content Coding extension and requesting information when the specification will be published.
 - CR (Cat. B) to TS 26.223 on 'HEVC Screen Content Extension support for IMS-based telepresence' postponed.
- Detailed time plan prepared with no change to foreseen completion date.

Work progress: Rel-14 Study Items:

Study on Enhanced Acoustic Test Specifications (FS_SEATS):

- The objective is to address existing items presently designated as "for further study" in TSs 26.131 and 26.132 and also examine opportunities for new acoustic tests and requirements.
- Comparison of objective measures with subjective listening tests for WB and SWB in background noise discussed with pCR planned for the next meeting.
- No updates to TR 26.931 (v. 0.0.9 remaining the latest version).
- Foreseen completion delayed until SA#74.

Study on Interactivity Support for 3GPP-based Streaming and Download Services (FS_IS3):

- The objective is to perform investigations on service interactivity in 3GPP streaming services (PSS, MBMS and DASH).
- Draft TR 26.953 'Interactivity Support for 3GPP-Based Streaming and Download Services' updated to v. 0.5.0.
 - Recommended requirements identified; both general and use case specific ones (derived from the identified interactivity use cases).
- Detailed time plan updated with no change to foreseen completion date.

Study on Server and Network Assisted DASH for 3GPP Multimedia Services (FS_SAND):

- The objective is to evaluate the MPEG SAND (Server and network assisted DASH) specification to ensure that 3GPP and MPEG DASH remain aligned and to identify potential enhancements for 3GPP DASH. Study started at SA4#88.
- Draft TR 26.957 'Study on Server And Network-assisted DASH (SAND) for 3GPP Multimedia Services' v. 0.1.0 produced.
 - The main content (in v. 0.1.0) is overview of MPEG SAND (ISO/IEC 23009-5).
- Detailed time plan prepared with no change to foreseen completion date.

Study on UE characteristics and performance for Video Telephony (FS_UE_VTPerf):

- The objective is to study UE characteristics and performance for video telephony and the relevance of setting minimum performance requirements/objectives for video telephony (similarly as for voice telephony in TS 26.131). Study started at SA4#88.

- First considerations on methods for measuring the end-to-end delay and the accuracy of the audio-video synchronization.
- Preparation of TR 26.932 'User Equipment (UE) characteristics and performance for video telephony' started with skeleton v. 0.1.0 produced.
- LS sent to ITU-T SG 12 and ITU-T SG9 to inform about this new study and requesting information and guidance on suitable performance metrics and related test methodologies.
- Detailed time plan prepared with no change to foreseen completion date.

Study on Virtual Reality (FS_VR):

- The objective is to investigate the relevance of Virtual Reality in the context of 3GPP. Study started at SA4#88.
- Preparation of TR 26.918 'Virtual Reality (VR) media services over 3GPP' started with skeleton v. 0.1.0 produced.
- Discussion mostly on use cases but these are not yet mature for the draft TR.
- Detailed time plan prepared with no change to foreseen completion date.

Other Rel-14 issues:

TEI14 and FS_SETA_S4:

- TEI14
 - CR (Cat. B) to TS 26.114 in SP-160269 on 'RTCP Bandwidth Recommendations': Recommends what RTCP bandwidth parameter values to use for RTP media to avoid poor selection of RTCP bandwidth by terminals.
- FS_SETA_S4
 - CR (Cat. F) to TS 26.916 in SP-160270 on 'Alignment to approved EVSoCS Specification': Alignment with TS 26.454 and some editorial corrections.

Overview of work progress:

Rel-13 Exception:

WI title	WI code	Completion-%	Target completion
Enhanced LTE UE delay test methods and requirements	E_LTE_UED (UID_650027)	80% -> 100%	SA#72 (6/2016)

Rel-14 Work Items:

WI title	WI code	Completion-%	Target completion
Development of super-wideband and full band P.835 test framework, databases, and performance specification	DESUDAPS (UID_680050)	50% -> 60%	SA#72 (6/2016) - > SA#75 (3/2017)
MBMS Transport Protocol and APIs	TRAPI (UID_700054)	20% -> 35%	SA#73 (9/2016)
Improved Streaming QoE Reporting in 3GPP Services and Networks	IQoE (UID_710011)	0% -> 10%	SA#74 (12/2016)
Media Handling Extensions of IMS-based Telepresence	IMS_TELEP_EXT (UID_710010)	0% -> 10%	SA#74 (12/2016)

Rel-14 Study Items:

SI title	SI code	Completion-%	Target completion
Study on Enhanced Acoustic Test Specifications	FS_SEATS (UID_590045)	65% -> 70%	SA#72 (6/2016) - > SA#74 (12/2016)
Study on Interactivity Support for 3GPP-based Streaming and Download Services	FS_IS3 (UID_660058)	40% -> 50%	SA#73 (9/2016)
Study on Server and Network Assisted DASH for 3GPP Multimedia Services	FS_SAND (UID_710013)	0% -> 10%	SA#74 (12/2016)
Study on UE characteristics and performance for Video Telephony	FS_UE_VTPerf (UID_710015)	0% -> 10%	SA#74 (12/2016)
Study on Virtual Reality	FS_VR (UID_710014)	0% -> 10%	SA#74 (12/2016)

Proposed new WIDs/SIDs:

- Two new Work Items
 - Extension of UE delay test methods and requirements (EXT_UED) in SP-160271
 - Enhancements to Multi-stream Multiparty Conferencing Media Handling (MMCMH_Enh) in SP-160272
- Three new Study Items
 - User Services Enhancements in 3GPP for TV Services (FS_USE_3GPP_4_TV) in SP-160273
 - MBMS usage and codecs for MCPTT call and MC Video Service (FS_MCP_V) in SP-160274

- MBMS Extensions for Provisioning and Content Ingestion (FS_xMBMS) in SP-160275

Dependencies on IETF drafts in SA4:

- No new dependencies introduced!
- Some dependencies removed via CRs:
 - HEVC and IMS_TELEP_S4: 'draft-ietf-payload-rtp-h265' updated to RFC 7798.
 - MMCMH: 'draft-ietf-mmusic-sdp-simulcast' and 'draft-ietf-avtext-rtp-stream-pause' removed as follow-up from AP 71/2.
- IETF dependencies in SA4 (including also those to be removed at SA#72 with green colour in slide):

IETF draft name	3GPP spec. number	CR# which introduced the dependency	Responsible person (in SA4)	Feature (Release)	CR# (at SA#72) which removes the dependency
draft-ietf-payload-rtp-h265	26.114 26.234 26.244 26.346	0276R1 0218R1 0052R2 0365R1	Thomas Stockhammer (tsto@qti.qualcomm.com), Qualcomm Incorporated	HEVC (Rel-12)	0366R1&0367R1 in SP-160259 0224R1&0225R1 in SP-160259 - 0534R1&0535R1 in SP-160259
	26.223	-		IMS_TELEP_S4 (Rel-13)	0001R1 in SP- 160259
draft-ietf-payload-flexible-fec-scheme	26.114	0333R1	Muhammed Coban (mcoban@qti.qualcomm.com), Qualcomm Incorporated	VTRI_EXT (Rel-13)	
draft-ietf-clue-framework	26.223	-	Ozgur Oyman (ozgur.oyman@intel.com), Intel	IMS_TELEP_S4 (Rel-13)	
draft-ietf-clue-datachannel	26.223	-	Ozgur Oyman (ozgur.oyman@intel.com), Intel	IMS_TELEP_S4 (Rel-13)	
draft-ietf-clue-signalling	26.223	-	Ozgur Oyman (ozgur.oyman@intel.com), Intel	IMS_TELEP_S4 (Rel-13)	
draft-ietf-clue-data-model-schema	26.223	-	Ozgur Oyman (ozgur.oyman@intel.com), Intel	IMS_TELEP_S4 (Rel-13)	
draft-ietf-clue-protocol	26.223	-	Ozgur Oyman (ozgur.oyman@intel.com), Intel	IMS_TELEP_S4 (Rel-13)	
draft-ietf-clue-rtp-mapping	26.223	-	Ozgur Oyman (ozgur.oyman@intel.com), Intel	IMS_TELEP_S4 (Rel-13)	
draft-ietf-mmusic-sctp-sdp	26.223	-	Ozgur Oyman (ozgur.oyman@intel.com), Intel	IMS_TELEP_S4 (Rel-13)	
draft-ietf-mmusic-data-channel-sdpneg	26.223	-	Ozgur Oyman (ozgur.oyman@intel.com), Intel	IMS_TELEP_S4 (Rel-13)	
draft-ietf-tsvwg-sctp-dtls-encaps	26.223	-	Ozgur Oyman (ozgur.oyman@intel.com), Intel	IMS_TELEP_S4 (Rel-13)	
draft-ietf-mmusic-sdp-simulcast	26.223	-	Tomas Frankkila (tomas.frankkila@ericsson.com), Ericsson LM	IMS_TELEP_S4 (Rel-13)	
draft-ietf-avtext-rtp-stream-pause	26.114	0355R2	Tomas Frankkila (tomas.frankkila@ericsson.com), Ericsson LM	MMCMH (Rel-13)	0375 in SP- 160264

Summary of action items:

- **Action Points from TSG SA#71 to SA WG4:**
 - AP 71/2: SA WG4 were asked to determine whether to move the SA WG4 MMCMH Feature to Release 14, or to adjust it to remove any CT WG4 dependency and create a new Rel-14 WID for the work.
 - SA4#88 agreed:
 - 1) CR to TS 26.114 Rel-13 (SP-160264) removing CT4-dependent parts of the MMCMH Feature, and

- 2) new Rel-14 WID MMCMH_Enh (SP-160272) covering the CT-dependent parts (and also some new enhancements).
- **AP completed!**
- **Action items from SA WG4 to TSG SA#72:**
 - Approve the documents presented for approval from SA WG4:
 - 48 CRs (including 12 Cat. A CRs)
 - 2 new WIDs and 3 new SIDs

Questions and comments:

The MCC Specifications manager reported that SA WG4 had requested changing TR 26.879 to the 26.9xx series of specifications. **This was agreed and TR 26.879 will be withdrawn and the new TR number was allocated as TR 26.989.**

The SA WG4 Chairman was thanked for this report, which was then noted.

7.5 SA WG5 Report and Questions for Advice

TD SP-160393 (REPORT) SA WG5 Status Report. (Source: SA WG5 Chairman).

Abstract: Report of SA WG5 activities.

Rel-13 Charging:

Work Item	Charging Aspects of IP Flow Mobility support for S2a and S2b Interfaces	NBIFOM-CH
Rapporteur	ZTE	
Completion	85% to 100%	
Target	SA#72 (06/2016)	
Status	- Charging Id description for TDF was made more generic to fit to NBIFOM as well. - Flow Based Charging: definition of access change of service data flow event and action upon encountering this event, were introduced. - Individual events (e.g. user location change) affecting one access are specified as also indirectly affecting the other access in the context of NBIFOM.	
Work Item	Charging Aspects of Architecture enhancements for Cellular Internet of Things	CloT-CH
Rapporteur	Nokia	
Completion	0% to 100%	
Target	SA#72 (06/2016)	
Status	Successful completion despite the big challenge. Some remaining adjustments may later be needed (e.g. due to SA2 and CT groups still working in parallel). New TS 32.25x Telecommunication management; Charging management; Control Plane (CP) data transfer domain charging: charging for Data delivery using PDN connection towards SCEF Data delivery using PDN connection to PGW specified in TS 32.251 Stage 3 covered for both mechanisms (delivery using PND connection to SCEF and delivery using PDN connection to PGW): new AVPs, new CPDT-information, PS-information extension, CDRs parameters and ASN.1.	

Rel-14 Charging:

Work Item	Resource optimization for PS domain online charging sessions	CH14-ROPOCH
Rapporteur	Ericsson	
Completion	0% to 10%	
Target	SA#73 (09/2016) -> SA#75 (03/2017)	
Status	Two discussion papers introduced various options One input approved as a draftCR to specify: - Delaying start of Gy session only upon start of service data flow - Stop the Gy session in advance upon a period with no valid quota	

Charging studies:

Work Item	Study on Overload Control for Diameter Charging Applications	FS_DOCME_CH
Rapporteur	ZTE	
Completion	10% to 10%	
Target	SA#73 (09/2016)	
Status	No progress due to higher priority for other Wis.	

Charging CRs:

Number	Title
SP-160410	Rel-8 CRs on IMS Charging (CH8 IMS)
SP-160411	Rel-13 CRs on Charging Aspects of Architecture enhancements for Cellular Internet of Things (CloT-CH)
SP-160412	Rel-13 CRs on Charging aspects of MONTE (MONTE-CH)
SP-160420	Rel-13 CRs on Charging Aspects of IP Flow Mobility support for S2a and S2b Interfaces (NBIFOM-CH)
SP-160415	Rel-12 CRs on Charging Management (CH12)
SP-160416	Rel-13 CRs on Charging Management (CH13)
SP-160417	Rel-14 CRs on Charging Management (CH14)

Charging TSs & TRs:

Number	Title
SP-160406	Draft TS 32.25x "Control Plane (CP) data transfer domain charging" for information and approval

Charging WIDs and exception requests:

Number	Title
SP-160395	New WID Charging Aspects of Architecture enhancements for Cellular Internet of Things
SP-160398	New WID Determination of Completeness of Charging Information in IMS

SP-160428	New WID Charging Aspects of Enhanced Proximity-based Services
SP-160429	New WID Charging Aspects of S8 Home Routing Architecture for VoLTE

Charging cooperation:

- IETF DIME WG
 - SA WG5 liaised IETF DIME WG to seek clarification on the status of IETF RFC 4006 "Diameter Credit-Control Application" which is currently using RFC 3588 as the Diameter base protocol, based on IETF RFC 3588 that has been obsoleted by IETF RFC 6733.
- Open Mobile Alliance (OMA)
 - OMA ARC maintains the OMA Data Definition Specification (DDS) based on the SA WG5 specification for Diameter AVP code definitions (TS 32.299).

Rel-13 OAM&P:

Work Item	NB-IoT Management	NB_IOT-OAM
Rapporteur	Huawei	
Completion	0% to 100%	
Target	SA#72 (06/2016)	
Status	The WG has analyzed the needs for Fault Management, Configuration Management and Performance Management for NB-IoT, and as a result produced and agreed a number of Rel-13 CRs that provide a full solution for these needs.	

Rel-14 OAM&P:

Work Item	Management concept, architecture and requirements for mobile networks that include virtualized network functions	OAM14-MAMO_VNF-MCAR
Rapporteur	China Mobile	
Completion	50% to 70%	
Target	SA#72 (06/2016) - > SA#73 (09/2016)	
Status	The WG made significant progress on management architecture, interface and use cases, and agreed four pCRs which are included in the Draft TS 28.500 now ready to be presented for information to SA.	
Work Item	Configuration Management for mobile networks that include virtualized network functions	OAM14-MAMO_VNF-CM
Rapporteur	ZTE	
Completion	20% to 30%	
Target	SA#74 (12/2016)	
Status	9 contributions have been addressed during the sessions, and the discussed topics include: Use cases and requirements on VNF instance information modification and retrieving were discussed. Correlation of MO creation and VNF instantiation was discussed but no progress was reached. Procedure flows of MOI creating, deleting and updating were discussed, one was revised and others were postponed. Usage of VNF open interface was discussed. Revised WID to ensure full alignment with the SA5-ETSI NFV IFA cooperation guidelines	
Work Item	Fault Management for mobile networks that include virtualized network functions	OAM14-MAMO_VNF-FM
Rapporteur	Huawei	
Completion	15% to 50%	
Target	SA#74 (12/2016)	
Status	Discussed business level use case on NFVI maintenance coordination and use case for alarm handling in the context of NFV. Discussed several procedure flow proposals on NE alarm correlation in the context of NFV, virtualization-specific aspect failure detection and notification, and VNF healing through operation request to VNFM by EM. Agreed the skeleton of stage 2 specification. Discussed the VNF alarm reporting stage 2 description on Itf-N. Revised WID to ensure full alignment with the SA5-ETSI NFV IFA cooperation guidelines	
Work Item	Performance management for mobile networks that include virtualized network functions	OAM14-MAMO_VNF-PM
Rapporteur	Intel	
Completion	15% to 30%	
Target	SA#74 (12/2016)	
Status	- The group discussed the following topics: • Requirements related to use cases for PM job/threshold operation and notifications. • PM data and threshold crossing notification procedure. • PM updating the threshold value procedure. The group discussed the binding issues related to the procedure flows. One option is to add a sentence at the introduction clause to state the procedure flows are not meant to be exhaustive. Revised WID to ensure full alignment with the SA5-ETSI NFV IFA cooperation guidelines	
Work Item	Lifecycle management for mobile networks that include virtualized network functions	OAM14-MAMO_VNF-LCM
Rapporteur	Nokia Networks	
Completion	15% to 25%	
Target	SA#74 (12/2016)	
Status	Discussed (not yet agreed) the use cases for VNF package deletion and NSD enabling/disabling.	

	The need for minor revisions improving the alignment with IFA specifications was identified. The requirements traceability for the new UCs need to be addressed. Discussed (not yet agreed) the VNF instantiation and termination use cases and requirements. A significant misalignment with the latest draft of IFA013 specification has been identified. Discussed the issues related to the use cases for application software update use cases. Discussed (not yet agreed) the use case and requirements for NS instantiation. Agreed requirements on re-tagging and a missing requirement for NSD on-boarding. Discussed a relatively new topic of affinity and anti-affinity. Revised WID to ensure full alignment with the SA5-ETSI NFV IFA cooperation guidelines	
Work Item	Filtering of PM measurements and data volume measurements for shared networks	OAM14-FILMEAS
Rapporteur	Ericsson	
Completion	0% to 15%	
Target	SA#74 (12/2016)	
Status	Business and specification use cases and requirements for using measurements for cross operator accounting were discussed.	

OAM&P studies:

Work Item	Study on Enhancements of OAM aspects of Distributed Mobility Load Balancing SON function	FS_D_SON_OAM
Rapporteur	Cisco	
Completion	50% to 100%	
Target	SA#72 (06/2016)	
Status	One pCR for additional conclusions in the TR was agreed, which meant that finally this TR could be agreed to be sent for SA approval and the study is completed.	
Work Item	Study on OAM support for assessment of energy efficiency in mobile access networks	FS_OAM_EE
Rapporteur	Orange	
Completion	10% to 55%	
Target	SA#73 (09/2016)	
Status	Gap analysis between ETSI EE 203 228 and 3GPP TSs has started and an LS has been sent to ETSI EE PS, asking for clarifications. LS from ETSI EE 02 on energy consumption metrics (ETSI ES 202 336-12) has been analysed and a reply LS has been sent asking more questions for clarification. A number of pCRs with draft text for the TR have also been agreed. Small progress at the last SA5 meeting since the group is waiting for replies to the two LSs sent out from SA5#106 to ETSI EE PS (S5-162239) ETSI EE 02 (S5-162240). Revised WID to extend the Objective to also consider the ETSI EE 02 architecture and information model specified in ETSI ES 202 336-12.	
Work Item	Study on OAM aspects of SON for AAS-based deployments	FS_OAM_SON_AAS
Rapporteur	Nokia Networks	
Completion	10% to 40%	
Target	SA#73 (09/2016)	
Status	The architecture options were discussed. Requirements on management of Cell Splitting were agreed Requirements on management of Cell Merging were agreed Requirements on management of Cell Shaping were agreed	
Work Item	Study on Implementation for the Partitioning of ltf-N	FS_IMP_ITFN
Rapporteur	China Mobile	
Completion	0% to 10%	
Target	SA#75 (03/2017)	
Status	One pCR about the grouping of IRP functionality has been agreed.	

OAM&P CRs:

Number	Title
SP-160418	Rel-9 CRs on 3G HNB and LTE HeNB OAM&P Type 1 Interface (HNB_eHNB-OAM_Type1)
SP-160409	Rel-10 CRs on OAM Maintenance and small Enhancements (OAM10)
SP-160408	Rel-11 CRs on OAM Maintenance and small Enhancements (OAM11)
SP-160407	Rel-13 CRs on OAM Maintenance and small Enhancements (OAM13)
SP-160413	Rel-13 CRs on Compliance of 3GPP SA5 specifications to the NGMN Top Operational Efficiency (OPE) Recommendations (OAM-NGMN-OPE)
SP-160419	Rel-13 CRs on Management for NB-IoT (NB_IOT-OAM)

OAM&P TSs & TRs:

Number	Title
SP-160404	Draft TS 28.500 "Management concept, architecture and requirements for mobile networks that include virtualized network functions" for information

SP-160443	Draft TR 32.860 "Study on enhancement of OAM aspects of distributed Self-Organizing Network (SON) functions" for information and approval
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OAM&P WIDs:

Number	Title
SP-160396	New WID NB-IoT Management
SP-160400	New SID Study on Management and Orchestration Architecture of Next Generation Network and Service
SP-160399	New SID Study on management aspects of next generation network architecture and features
SP-160394	New SID Study on Management and Orchestration of Network Slicing
SP-160397	New WID OAM support for Licensed Shared Access (LSA)
SP-160401	Revised WID Configuration Management for mobile networks that include virtualized network functions
SP-160402	Revised WID Performance management for mobile networks that include virtualized network functions
SP-160403	Revised WID Fault Management for mobile networks that include virtualized network functions
SP-160427	Revised WID Lifecycle Management for mobile networks that include virtualized network functions
SP-160430	Revised SID Study on OAM support for assessment of energy efficiency in mobile access networks

OAM&P cooperation:

- ETSI ISG NFV IFA
 - Cooperation guidelines between SA WG5 and ETSI ISG NFV have been agreed.
 - SA WG5 has checked and revised when needed the existing Rel-14 WIDs related to NFV to ensure full alignment with the cooperation guidelines.
 - SA WG5 is also in the process of aligning new Rel-14 draft TSs related to NFV to ensure compliance with the cooperation guidelines, notably by referencing ETSI specifications whenever needed.
 - Ongoing communication is done via LS, calls may be set up on specific topics if needed e.g. NFV modelling.
- NFV information modelling
 - SA WG5 attended the ETSI workshop on NFV Information Modelling Jan 13-14 2016 in Louisville.
 - A call was held at the end of March 2016 and SA WG5 has reported progress on the NFV modelling work currently ongoing in SA WG5.
 - Next meeting is planned at the end of July (call or F2F TBC).
- Multi-SDO (SA WG5, TM Forum, NGMN)
 - Ongoing LS exchange with TM Forum on maintaining alignment on Fixed Mobile Convergence (FMC) Model Repertoire.
 - The JWG on Converged Performance Management is still active. It is likely to be replaced by traditional LS exchange.
 - Agreed to maintain the Multi-SDO steering committee until end of 2016 to estimate whether more common work is needed.
- BBF/SCF - HNB/HeNB
 - SA WG5 is the 3GPP focal point to BBF for HNB and HeNB data models.
 - BBF maintains the HNB/HeNB data models based on SA WG5 requirements.
 - SCF has requested SA5 and BBF to add more detailed cell parameters in the HNB/HeNB data models (BBF TR196).
- ITU-T SG2 - Management Interface Methodology
 - Interface specification methodology and templates on Requirements and Analysis/Information Service level kept 100% aligned.
 - Regular conference calls with ITU-T SG2 to maintain this alignment.

Questions and comments:

There were no questions or comments. The SA WG5 Chairman was thanked for this report, which was then [noted](#).

7.6 SA WG6 Report and Questions for Advice

TD SP-160338 (REPORT) SA WG6 status report to TSG SA#72. (Source: SA WG6 Chairman).

Abstract: Report of SA WG6 activities.

Work summary - Rel-13:

Rel-13 corrections for MCPTT:

- Rel-13 activity counted for around half the meeting time in SA6#10 and one fourth of the meeting time in SA6#11.
- 39 CRs (26 in SA6#10 and 13 in SA6#11) were agreed for Rel-13 MCPTT, available for approval in SP-160339.
- Main areas for corrections:
 - Configuration management:
 - MCPTT user profile procedures, handling of multiple user profiles for a single MCPTT user. More work may be needed in Rel-13, e.g. for the active MCPTT user profile selection,
 - modification of security configuration parameters to align with security stage 2 and stage 3,
 - MCPTT user database deployment scenarios.
 - Group calls and group management
 - Floor control
 - Use of MBMS
 - Affiliation
 - User authentication and MCPTT service authorization

Work summary - Rel-14:

FS_MBMS_Mcscservices - Study on MBMS usage for mission critical communication services:

- Study item approved at SA#71 (SP-160201).
- Progress since last SA:
 - Work completed on assumptions and architecture requirements,
 - 12 key issues introduced, in the areas of service continuity, transfer of MCPTT calls between unicast and broadcast, reception reporting, service announcement, QoS, FEC,
 - 3 solutions agreed to be introduced in the TR.
- Study item and TR 23.780 are 35% complete. SA6 decided not to send the TR for information to SA#72. Updates to the SID to be discussed in SA6#12.
- Next steps
 - progress aspects of the SID which have not been covered yet, such as location reporting, roaming and security.
 - Solution to key issues and evaluation of these solutions. This may require liaison with other WGs.

New study on mission critical system migration and interconnect between MCPTT systems:

- New study item available for approval in SP-160340.
- Objectives are to identify solutions that satisfy the requirements for migration (an MCPTT user obtains service from a partner system) and interconnect between MCPTT systems. This study should encompass all Release 14 mission critical services which require such interconnect (MCPTT, mission critical video, mission critical data as required).
 - Expected completion date: SA#73, September 2016.
- Study item and TR are 5% complete:
 - Skeleton and scope for the TR were approved.
 - MCPTT high-level / group calls / private calls migration and interconnect scenarios were identified.

New study on Mission Critical Communication Interworking between LTE and non-LTE Systems:

- New study item available for approval in SP-160341.
- Objective is to identify an interworking application architecture, compatible with architecture being developed for MCPTT, MC Video and MC Data, to satisfy service requirements for the interworking with non-LTE mission critical LMR systems (P25, TETRA, legacy LMR).
- This study may require interaction with other standards organizations (e.g., ETSI TC TCCE, ATIS, TIA).
- This study will take into account the conclusions reached in the study on mission critical system migration and interconnect.
- Expected completion date: SA#74, December 2016.
- Study item and TR are 5% complete:
 - Skeleton and scope were approved.

- Key issues added on mapping between MCPTT and TETRA/P25 for user identity and group identity.

Stage 2 specifications for Rel-14:

- SA6 continued discussion on Rel-14 documentation structure for mission critical services specification (MCPTT leftovers, MC Video, MC Data and common services core architecture).
- SA6 decided that TS 23.179 will only be available in Rel-13, and that it will be split into two different new TSs for Rel-14:
 - one TS specifying common functional architecture, procedures and information flows to support mission critical services, building upon the common services core architecture defined in Rel-13,
 - one TS specifying the functional architecture, procedures and information flows to support the MCPTT service.
- SA6 has progressed the split for two meetings. Still some work is needed, e.g. on terminology and functional model, and some refinement may also be needed in the course of progress on MC Video and MC Data.
- SA6 also agreed to start two other service specific TSs, one for MC Video and one for MC Data. Where to specify possible services interaction aspects needs more discussion.

New work item on common functional architecture to support mission critical services:

- New work item available for approval in SP-160342.
- Objectives are to specify the stage 2 aspects for a common functional architecture to support the service requirements for mission critical services.
- Expected completion date: SA#74, December 2016.
- Work item is 10% complete:
 - Skeleton and scope for new TS were approved.
 - Progress made related to the split of TS 23.179 for: assumptions, architectural requirements, functional model, business relationships, identities, deployment scenarios, procedures and information flows.

New work item on Enhancements for Mission Critical Push To Talk:

- New work item available for approval in SP-160343.
- Objectives are to identify relevant stage 1 MCPTT requirements that were not fulfilled, or only partially fulfilled in Rel-13. For those requirements, SA6 will further enhance the architecture developed in Rel-13.
- Expected completion date: SA#74, December 2016.
- Work item is 10% complete:
 - Skeleton, scope and introduction for new MCPTT TS were approved.
 - Progress made related to the split of TS 23.179 for: functional model, procedures and information flows.
 - New procedures were agreed for: location of current talker, remote change of another MCPTT user's selected group.
 - Initial analysis of stage 1 coverage by Rel-13 architecture was discussed.

New work item on functional architecture and information flows for Mission Critical Video:

- New work item available for approval in SP-160344.
- Objectives are to specify the architecture for mission critical video at the application level, reusing the common functional architecture.
- Expected completion date: SA#74, December 2016.
- Work item is 5% complete:
 - Skeleton, scope and introduction for new TS were approved.
 - Definition of transmission control was approved.
 - Progress on requirements for: media routing, group (de-)affiliation.
 - Initial description of MC Video functional entities at application plane available.

New work item on functional architecture and information flows for Mission Critical Data:

- SA6 had initial discussion on mission critical data service requirements and on different approaches to progress the work for MC Data application architecture specification (TS only, TR followed by TS, TS and TR in parallel). Agreed approach is to start a normative phase.
- New work item available for approval in SP-160345.
- Objectives are to specify the stage 2 (architecture) for MCData, and apply prioritization as necessary to ensure that normative specification for basic functionality (e.g. capabilities) is available in Release 14.
- Expected completion date: SA#74, December 2016.

For TSG SA information:

- Due to prolonged Rel-13 for MCPTT, Rel-14 is very short for stage 2 in SA WG6, in particular for MC Video and MC Data specification for which service requirements should be approved by TSG SA#72.
- SA WG6 need to study MC Video and MC Data service requirements enough to be able to progress common functional architecture, TS 23.179 split as well as to progress some studies.

- Prioritization of service requirements implementation for MC Video and MC Data may be applied by SA6 as necessary to ensure basic functionality is specified in Rel-14.

For TSG SA action:**- Actions**

- Rel-13 CRs to TS 23.179 for MCPTT for approval in [TD SP-160339](#).
- 2 new SIDs for approval:
 - Mission critical system migration and interconnect between MCPTT systems ([TD SP-160340](#))
 - Mission Critical Communication Interworking between LTE and non-LTE Systems ([TD SP-160341](#))
- 4 new WIDs for approval:
 - Common functional architecture to support mission critical services ([TD SP-160342](#))
 - Enhancements for Mission Critical Push To Talk ([TD SP-160343](#))
 - Functional architecture and information flows for Mission Critical Video ([TD SP-160344](#))
 - Functional architecture and information flows for Mission Critical Data ([TD SP-160345](#))

Questions and comments:

Slide 15: Blackberry asked for clarification of the splitting of 23.179 in Rel-14 as it may have been better to continue TS 23.179. The U.S. Department of Commerce commented that they agreed with this splitting and noted that this has also been done in SA WG1. The TSG SA Chairman commented that alignment of Rel-13 changes with mirror CRs will be more work and will need to be well controlled. The SA WG6 Chairman commented that there should be no misalignment between Releases as the maintenance has so far been done using pCRs and will be done in the normal way through CRs to each TS.

The SA WG6 Chairman was thanked for this report, which was then [noted](#).

7.7 TSG RAN report and Questions for Advice

[TD SP-160482](#) (REPORT) TSG RAN report to TSG SA#72 (focus on issue with relevance to TSG SA). (Source: TSG RAN Chairman).

Abstract: Summary report of TSG RAN#72 activities

NR:

- Further progress on NR scope & work plan
 - Endorsed plan in RP-161253 (see also timeline in the next slide)
- Good progress on requirements & deployment scenarios
 - Next version of the TR will be available in RP-160810 (under email approval)
 - SI will be closed and TR will be approved in RAN#73.
 - In RAN#73 the approved TR will be sent to ITU-R WP5D
- Closed SI on channel modelling for frequencies above 6 GHz
 - Approved TR in RP-161301, sent to ITU-R WP5D in LS RP-161314

NR: joint RAN/SA session:

- **Endorsed tasks for the WGs (RP-161269):**
 - SA2 should deliver options 2, 4, 5 and 7 in line with the time plan in RP-161253*
 - By March 17 we should understand if SA2 can deliver option 2,4,5 and 7
 - RAN2/3 should continue to work on option 3 (together with the other options)
 - Table in slide 10 of RP-161266 is confirmed (removes options 6 and 8)
 - R1/R2/R3/R4/S2 to ensure availability of forward compatibility and report to RAN#75
 - Forward compatibility between NSA and SA
 - Forward compatibility between scenarios
 - In March 17 - once the forward compatibility task is reviewed - we will assess what options will be specified
 - Considering device complexity, migration etc...
 - * Options described in RP-161266

Approved new items:**- LTE**

- RP-161324, Enhancements of NB-IoT WI (RAN1-led)
- RP-161321, Further Enhanced MTC WI (RAN1-led)
- RP-161299, Shortened TTI and processing time for LTE WI (RAN1-led)
- RP-161298, LTE-based V2X Services WI (RAN1-led)
- RP-161181, SON for eCoMP for LTE SI (RAN3)
- RP-161197, Multi-node testing for LAA SI (RAN4)
- RP-161187, NB-IoT RF requirement for coexistence with CDMA SI (RAN4)

3GPP

TSG SA