**Third Generation Partnership Project (3GPP™)**

**Meeting Report  
for  
TSG SA WG3  
meeting: 96**

**Wroclaw, Poland, 26/08/2019 to 30/08/2019**

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## 1 Opening of the Meeting

The Chair Noamen Ben Henda welcomed the attendees to the beautiful city of Wroclaw, Poland. Steffan (Deutsche Telekom) gave the speech on behalf of EF3 and claimed that that didn’t mean he was coming back to 3GPP meetings.

## 2 Approval of Agenda and Meeting Objectives

**S3-192500 Agenda**

*Type: agenda For: (not specified)  
 Source: WG Chairman*

**Decision:** The document was **revised to S3-192978**.

**S3-192978 Agenda**

*Type: agenda For: -  
 Source: WG Chairman*

(Replaces S3-192500)

**Decision:** The document was **approved**.

## 3 IPR and Anti-Trust Law Reminder

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.

The attention of the delegates to the meeting was drawn to the fact that 3GPP activities were subject to all applicable 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 leadership would conduct the present meeting with 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. Delegates were reminded of the fair network use rules established by the PCG:

1. Users shall not use the network to engage in illegal activities. This includes activities such as copyright violation, hacking, espionage or any other activity that may be prohibited by local laws.

2. Users shall not engage in non-work related activities that are consume excessive bandwidth or cause significant degradation of the performance of the network.

## 4 Meeting Reports

### 4.1 Approval of the report from previous SA3 meeting(s)

**S3-192501 Report from last SA3 meeting/s**

*Type: report For: (not specified)  
 Source: MCC*

**Decision:** The document was **approved**.

### 4.2 Report from SA Plenary

### 4.3 Report from SA3-LI

Alex (SA3-LI) clarified that there were no release 15 issues left in LI.

## 5 Items for early consideration

## 6 Reports and Liaisons from other Groups

### 6.1 3GPP Working Groups

**S3-192506 LS on Broadcast of Location Assistance Data for NR**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1908104*

**Decision:** The document was **noted**.

**S3-192509 Reply LS on DL-only UE-based positioning**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1908624*

**Decision:** The document was **noted**.

### 6.2 IETF

### 6.3 ETSI SAGE

**S3-192535 256 bit radio interface algorithm performance**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: ETSI SAGE*

**Discussion:**

Vodafone commented that proper feedback was needed, from as many companies as possible.

Nokia: single/multiple core is for UE or network side? Vodafone: both.

Nokia: Multi-CPU for the core side should be assumed.

**Decision:** The document was **postponed**.

**S3-192980 Reply to: 256 bit radio interface algorithm performance**

*Type: LS out For: approval  
 to ETSI SAGE  
 Source: Qualcomm*

**Decision:** The document was **noted**.

**S3-192946 On the requirements for 256-bit algorithms**

*Type: other For: Endorsement  
 Source: Qualcomm Incorporated*

**Discussion:**

Ericsson: reuse hardware or optimizations?

Vodafone: it can be any of those.

NTT-Docomo: excluding here AD modes that may be more efficient.

CATT supported this proposal.

Ericsson: we don’t want to have new hardware for these but to reuse what is available.

Huawei: Bottleneck in the UE not in the network.

Vodafone: send an LS back to SAGE or we will be stalling their work on 256-bit algorithms. This was agreed.

**Decision:** The document was **noted**.

### 6.4 GSMA

### 6.5 TCG

**S3-192520 TCG progress report**

*Type: report For: Information  
 Source: InterDigital Communications*

**Abstract:**

This contribution provides a brief incremental summary of the progress in TCG Working Groups as of August 2019.

**Discussion:**

1. TCG – Highlights

Publication of new or revised deliverables (incremental changes from the status reported at SA3#95-BIS)

• TCG RIV: Network Equipment Remote Attestation – public review June 2019 http://www.trustedcomputinggroup.org/specifications-public-review/

• TCG Trusted Attestation Protocol (TAP) Info Model – publication August 2019

• TCG Trusted Attestation Protocol (TAP) Use Cases – public review August 2019 http://www.trustedcomputinggroup.org/specifications-public-review/

• TCG Mobile Device Runtime Integrity Preservation – public review August 2019 http://www.trustedcomputinggroup.org/specifications-public-review/

• TCG TPM 2.0 Auto Thin Profile – publication August 2019

• TCG TSS 2.0 Enhanced System Level API (ESAPI) – publication August 2019

• TCG TSS 2.0 System Level API (SAPI) – publication August 2019

• TCG TSS 2.0 TPM Command Transmission Interface (TCTI) – public review July 2019 http://www.trustedcomputinggroup.org/specifications-public-review/

• TCG Storage: Configurable Namespace Locking Examples – public review July 2019 http://www.trustedcomputinggroup.org/specifications-public-review/

• TCG Storage: PYRITE – public review in June 2019 http://www.trustedcomputinggroup.org/specifications-public-review/

• TCG Storage: RUBY – public review in June 2019 http://www.trustedcomputinggroup.org/specifications-public-review/

• TCG Storage: OPAL Shadow MBR for Multiple Namespaces – public review June 2019 http://www.trustedcomputinggroup.org/specifications-public-review/

• TCG TPM 2.0 r1.55 – X.509 Certs & Attached Components – public review May 2019 http://www.trustedcomputinggroup.org/specifications-public-review/

• TCG TPM 2.0 Auto Thin Protection Profile – published February 2019

• TCG PC Client Device Driver Design Principles for TPM 2.0 – public review February 2019 http://www.trustedcomputinggroup.org/specifications-public-review/

• IETF Remote Attestation Procedures (RATS) WG in IETF Security Area

About: https://datatracker.ietf.org/wg/rats/about/

Charter: https://datatracker.ietf.org/doc/charter-ietf-rats/

Documents: https://datatracker.ietf.org/wg/rats/documents/

• draft-ietf-rats-eat-01 The Entity Attestation Token (EAT)

• draft-birkholz-rats-basic-yang-module-01 YANG Module for Basic Challenge-Response-based Remote Attestation Procedures

• draft-birkholz-rats-information-model-00 An Information Model for Assertions used in RATS

• draft-birkholz-rats-reference-interaction-model-01 Reference Interaction Model for Challenge-Response-based Remote Attestation

• draft-birkholz-rats-tuda-00 Time-Based Uni-Directional Attestation

• draft-fedorkow-rats-network-device-attestation-00 Network Device Attestation Workflow

• draft-richardson-rats-usecases-04 Use cases for Remote Attestation common encodings

• draft-tschofenig-rats-psa-token-02 Arm's Platform Security Architecture (PSA) Attestation Token

2. Meetings

• TCG Annual Members Meeting in Toronto, Canada - 15-17 October 2019

• TCG Members Meeting in Miami, Florida USA – 10-13 February 2020

• MPWG meets every Thursday at 10-11 ET

• TMS WG meets every Monday and Friday at 12-13 ET

• CyRes WG meets every Wednesday at 11-12:30 ET

3. Conclusion

It is proposed to add the contents of this contribution in the appropriate section, similar to “Reports and Liaisons from other Groups – TCG” of SA3#96 meeting report.

**Decision:** The document was **noted**.

### 6.6 oneM2M

### 6.7 TC-CYBER

Colin (NCSC) gave a short update on TC CYBER:No meetings since last SA3 meeting. IoT standards with CEN-CENELEC are being worked on.

Vodafone: anything relevant in there for 3GPP?

NCSC: yes, but no requirements.

### 6.8 ETSI NFV

### 6.9 CVDs and Research

**S3-192600 Way forward on CVD and research**

*Type: discussion For: Endorsement  
 Source: CableLabs, BT, Nokia*

(Replaces S3-191623)

**Discussion:**

Vodafone wasn’t comfortable to having a closed group when everything done in SA3 public. On the other hand, there were weaknesses and failures that may need to be treated not publicly, so both worlds had to live together somehow.

CableLabs commented that this discussion was intended for public research papers. Vodafone commented that SA3 still needed a place to discuss sensitive issues in private. Alf (NTT-Docomo) commented that this could be done away from the SA3 process, any comments or discussions could be done privately between companies any time. 3GPP papers and work were public and companies could have their own discussions outside the 3GPP environment.

The Chair commented that there was no need to have a formal process for this in 3GPP and it should be done outside SA3's official involvement. Alex (BT) clarified that any intent to have a closed group in SA3 could be violating 3GPP working procedures. Orange and Huawei supported this. The general that this was the way to go and no closed groups should be set up.

Alf (NTT-Docomo): we may be missing a statement in the 3GPP website clarifying to researchers the way to bring in papers that fix standard security issues, by doing it via a 3GPP member company.

Apple: create an agenda item for research papers.

China Mobile: this is usually done by companies already. They can always bring CRs to fix the security issues and that should be treated as a response.

Several companies argued that there were other agenda items where this could be done.

T-Mobile: not our job to review research papers, this is done internally in our own companies. We can bring contributions to the appropriate agenda items after internal consideration.

**Decision:** The document was **noted**.

### 6.10 Other Groups

**S3-192505 Wireline Access Security requirements**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to S3-192981, cc -  
 Source: BBF*

**Discussion:**

Vodafone: mention what 33.501 is relevant to and not what is not relevant to.

Alf (NTT-Docomo): errors in the attached document. E.g. it's 256 bits and not bytes.

**Decision:** The document was **replied to in** .

**S3-192512 LS on withdrawal of TS 103 383 “Smart Cards; Embedded UICC; Requirements Specification”**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: ETSI TC SCP*

**Discussion:**

Orange brought 4 CRs for this meeting to address this issue; these were in another agenda item and agreed.

**Decision:** The document was **replied to in S3-192986**.

**S3-192986 Reply to: LS on withdrawal of TS 103 383 “Smart Cards; Embedded UICC; Requirements Specification”**

*Type: LS out For: approval  
 to ETSI TC SCP, cc ETSI TC SCP REQ  
 Source: Orange*

**Decision:** The document was **approved**.

**S3-192513 LS on SG11 activities related to improvement of the SS7 security including for digital financial services**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: ITU-T SG11*

**Discussion:**

BT recommended the group to read the attached documents as there were some points of interest for operators.

**Decision:** The document was **noted**.

**S3-192533 LS from TC SmartM2M STF547 to 3GPP SA1 Cc SA3**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: ETSI TC SmartM2M*

**Decision:** The document was **noted**.

## 7 Work Areas

### 7.1 Security aspects of 5G System - Phase 1 (5GS\_Ph1-SEC) (Rel-15)

#### 7.1.1 UDR

**S3-192514 Reply LS on Nudr Sensitive Data Protection**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: SP-190581*

**Discussion:**

Vodafone: we had an extended discussion on this LS and we have CRs for this meeting. We can note it.

Other companies argued that a reply may be needed, so it was kept open.

**Decision:** The document was **noted**.

**S3-192933 Minutes of SA3/CT4 call on Nudr sensitive data protection**

*Type: other For: Information  
 Source: SA3 Vice-chair (Qualcomm Incorporated)*

**Decision:** The document was **noted**.

**S3-192586 Summary of updates to S3-192276 from last meeting**

*Type: discussion For: Endorsement  
 33.501 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **noted**.

**S3-192587 Definition of authentication subscription data and update to UDM requirement**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0617 rev 2 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-191986)

**Discussion:**

Orange and Vodafone had some specific comments that were taken offline (specifically on clause 5.8).

Vodafone: we were told that security had to be unspecified in release 15 so as not to interfere with CT. This is not necessary.

**Decision:** The document was **revised to S3-192987**.

**S3-192987 Definition of authentication subscription data and update to UDM requirement**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0617 rev 3 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192587)

**Decision:** The document was **agreed**.

**S3-192588 Requirement on UDR**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0621 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192053)

**Discussion:**

Vodafone had issues with adding this in Release 15.

Orange: in one document you say it is left for implementation and in the other you are defining requirements. There is no time to work on this in Release 15. Let's not address this in Release 15 as pointed out to us by SA.

**Decision:** The document was **not pursued**.

**S3-192589 Missing UDR description in alignment with 29.505**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0590 rev 2 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192054)

**Discussion:**

Vodafone,NTT-Docomo and Orange didn’t agree with this. Only the change in the abbreviation update was agreed. Orange added that they didn’t see the consequences in stage 3 if the word "authentication" wasn't added to subscription data in the new text. Leave to CT4 to decide which kind of subscription data is stored.

NTT-Docomo replied that CT4 needed a separate place to store authentication method. Vodafone replied that this wasn't what was agreed during joint discussions with CT4.

NTT-Docomo added that the abbreviation change was only kept if used in the CRs or specification.

Orange: HSM is not used in the text.

**Decision:** The document was **revised to S3-192988**.

**S3-192988 Missing UDR description in alignment with 29.505**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0590 rev 3 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192589)

**Decision:** The document was **agreed**.

**S3-192591 Adding Nudr service**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0591 rev 2 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192056)

**Discussion:**

Nokia added that this could be done in Release 16 and proposed to not pursue it.

**Decision:** The document was **not pursued**.

**S3-192590 Update on ARPF**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0622 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192055)

**Discussion:**

Alf (NTT-Docomo): the ARPF just stores the long-term key, "may" is not necessary. Gemalto agreed with this.

Vodafone pointed out that no standardization had to be done in Release 15 as agreed with SA.Alex (BT): this assumes that the only attack is decrypting the data in UDR. You can also replace whatever is in the UDR. Let's do it properly in Release 16, including all possible attacks.

**Decision:** The document was **revised to S3-192989**.

**S3-192989 Update on ARPF**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0622 rev 2 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192590)

**Decision:** The document was **agreed**.

**S3-193083 Discussion on UDR related contributions**

*Type: discussion For: discussion  
 Source: Nokia*

**Decision:** The document was **endorsed**.

#### 7.1.2 Incoming and outgoing related Lses

#### 7.1.3 Other 5G security aspects

**S3-192530 Corrections for Definitions and Abbreviations clauses**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0639 Cat: F (Rel-15)  
  
 Source: AT&T, Interdigital, Nokia*

**Abstract:**

This CR proposes corrections for Definitions and Abbreviations clauses.

**Discussion:**

Orange: SE is not the adequate abbreviation.

Ericsson didn't find the definition precise enough. Qualcomm didn't find the change needed.

China Mobile didn’t agree with having it as a logical identity, since it could be a physical protection. Gemalto supported this.

Nokia: the term is used 22 times and it is part of the UDM/UDR discussion.

Orange commented that the term secure environment was self-explanatory.

**Decision:** The document was **not pursued**.

**S3-192624 Correcting references**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0644 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

Ericsson: second change refer directly to TS 33.210 instead.

**Decision:** The document was **revised to S3-192990**.

**S3-192990 Correcting references**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0644 rev 1 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

(Replaces S3-192624)

**Decision:** The document was **agreed**.

**S3-192625 Removing editor notes**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0645 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

Alf (NTT-Docomo): the reasons for change are not clear.

Some additional typos were suggested to be fixed in the text of the specification.

**Decision:** The document was **revised to S3-192991**.

**S3-192991 Removing editor notes**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0645 rev 1 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

(Replaces S3-192625)

**Decision:** The document was **agreed**.

**S3-192540 Correction of text on access authentication for untrusted access**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0640 Cat: F (Rel-15)  
  
 Source: BlackBerry UK Limited*

**Discussion:**

Treated as item for early consideration.

Lenovo: the WLAN part is out of scope for us. We don’t want to see this.

Nokia didn’t agree either, although the reference correction should be left.

Tao (CableLabs) supported the above companies.

Blackberry commented that in CT1 they needed to define a procedure to select ANI, but they couldn't since this SA3 specification didn’t have a requirement for that.

Huawei: you can fall back to Release 8 and use LTE security.

**Decision:** The document was **revised to S3-192979**.

**S3-192979 Correction of text on access authentication for untrusted access**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0640 rev 1 Cat: F (Rel-15)  
  
 Source: BlackBerry UK Limited*

(Replaces S3-192540)

**Decision:** The document was **agreed**.

**S3-192793 Modification of the message name in the key derivation during handover**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0654 Cat: F (Rel-15)  
  
 Source: CATT*

**Discussion:**

Ericsson: not a FASMO change. This is not needed.

Alf (NTT-Docomo): this is being used in SA2 and we have a chance of aligning stage 3 with SA2.

**Decision:** The document was **not pursued**.

**S3-192708 Clarification on the topology hiding in SBI**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0649 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Nokia: this is too long and confusing.

Ericsson: CT4 has decided to do this in Release 16. Let's not interfere with them.

China Mobile also wondered why this was needed in Release 15 and it should be a new feature in Release 16.

This was taken offline.

**Decision:** The document was **not pursued**.

**S3-192947 Aligning KAUSF storage at the UE with SoR and UPU procedures**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0659 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **agreed**.

**S3-192862 Security of RRC UE capability transfer procedure in 5GS**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0656 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Discussion:**

Qualcomm: this won’t work with CIoT Ues that don’t support AES security. It's probably OK to release 15 (we don’t support CIoT optimizations there) but not for the other releases.

**Decision:** The document was **agreed**.

**S3-192792 Discussion on the procedure of secondary authentication**

*Type: discussion For: Discussion  
 33.501 v..  
 Source: China Mobile*

**Discussion:**

Huawei: this point has been clarified already in SA2 already. Just one clarification is needed in step 8.

Nokia: Exchange of MAC and IP will happen later than step 8.

China Mobile: this may impact SA2 specifications so we need to know if they accept this kind of change.

Ericsson was OK with this approach.

**Decision:** The document was **not pursued**.

**S3-192794 Adjust the procedure of GPSI and IP/MAC notification**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0655 Cat: F (Rel-15)  
  
 Source: China Mobile*

**Discussion:**

Huawei: call flow needs to be updated.

Qualcomm: the baseline is wrong, showing only some steps.

**Decision:** The document was **revised to S3-192992**.

**S3-192992 Adjust the procedure of GPSI and IP/MAC notification**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0655 rev 1 Cat: F (Rel-15)  
  
 Source: China Mobile*

(Replaces S3-192794)

**Decision:** The document was **agreed**.

**S3-192777 Clarification for Secondary Authentication**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0653 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-192993**.

**S3-192993 Clarification for Secondary Authentication**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0653 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192777)

**Decision:** The document was **agreed**.

**S3-192929 Discussion on leaving AMF relocation solutions to after Rel-15**

*Type: discussion For: Endorsement  
 Source: Qualcomm Incorporated*

**Discussion:**

ZTE supported the proposal. Huawei didn’t since they had an alternative in another document. They commented that it wasn't a decision for SA3 but for SA2. Nokia pointed out that SA2 had been already consulted with an LS, so the decision could be postponed until their response.

Nokia supported Qualcomm for this proposal.

China Mobile didn’t agree and considered this needed in Release 15.

**Decision:** The document was **noted**.

**S3-192930 Discussion on possible solutions to AMF relocation issues**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

(Replaces S3-191911)

**Discussion:**

This discussion was taken offline.

**Decision:** The document was **noted**.

**S3-192887 Discussion about AMF re-allocation and slicing**

*Type: discussion For: Approval  
 Source: Ericsson*

**Discussion:**

Huawei just supported number 7. China Mobile didn’t support proposal 2.

Ericsson commented that the purpose was to send an LS on the agreed proposals after offline discussion (tdoc 889 was the baseline for that LS).

Huawei: the term default AMF is not adequate, since it's an SA2 term. Ericsson replied that SA3 could ask them to re-adapt that term to SA3's conclusions.

This was taken offline.

**Decision:** The document was **noted**.

**S3-192888 AMF re-allocation and slicing**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0657 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Discussion:**

Nokia: no need to have a new clause on this.

This was left offline together with the related documents.

**Decision:** The document was **not pursued**.

**S3-192615 Discussion on registration with AMF re-allocation**

*Type: discussion For: Discussion  
 33.501 v..  
 Source: ZTE Corporation*

**Decision:** The document was **noted**.

**S3-192617 Security for registration with AMF re-allocation**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0643 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

Nokia didn't believe that this was solving the issue. Huawei agreed.

**Decision:** The document was **not pursued**.

**S3-192711 Discussing registration failure in registration procedure with AMF reallocation**

*Type: discussion For: Endorsement  
 33.501 v..  
 Source: Huawei, Hisilicon, CAICT*

**Decision:** The document was **noted**.

**S3-192710 Solving registration failure in registration procedure with AMF reallocation**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0651 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon, CAICT*

**Discussion:**

Ericsson: we disagree with having the UE accepting protected messages.

This had to be taken offline.

**Decision:** The document was **not pursued**.

**S3-192709 Clarification on UE context transfer in registration with AMF reallocation via direct NAS reroute**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0650 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm: the UE is not impacted, but the cover page says the same. The last sentence refers to the UE's behaviour which also implies UE impact.

This was left offline.

**Decision:** The document was **revised to S3-193058**.

**S3-193058 Clarification on UE context transfer in registration with AMF reallocation via direct NAS reroute**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0650 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192709)

**Decision:** The document was **agreed**.

**S3-192616 Discussion on Identity Request with AMF re-allocation**

*Type: discussion For: Discussion  
 33.501 v..  
 Source: ZTE Corporation*

**Decision:** The document was **noted**.

**S3-192618 LS on registration and identity request issues with AMF re-allocation**

*Type: LS out For: Approval  
 to SA2, CT1  
 Source: ZTE Corporation*

**Decision:** The document was **noted**.

**S3-192889 LS on AMF reallocation between Network Slices**

*Type: LS out For: Approval  
 to CT1, SA2  
 Source: Ericsson*

**Decision:** The document was **noted**.

**S3-192630 Discussion on the handling of native non-current 5G NAS security context after an inter-system change from S1 mode to N1 mode in idle mode**

*Type: discussion For: Decision  
 33.501 v..  
 Source: Intel Deutschland GmbH*

**Decision:** The document was **endorsed**.

**S3-192631 Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0646 Cat: F (Rel-15)  
  
 Source: Intel Deutschland GmbH*

**Discussion:**

Huawei: remove the word "current" from the new text.

Samsung: this is not aligned with the discussion paper. They suggested some rewording for that.

Qualcomm had a similar CR in the next contribution.

**Decision:** The document was **revised to S3-192997**.

**S3-192997 Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0646 rev 1 Cat: F (Rel-15)  
  
 Source: Intel Deutschland GmbH,Qualcomm*

(Replaces S3-192631)

**Decision:** The document was **agreed**.

**S3-192941 NAS Count values in the mapped EPS security context in 5GS to EPS change**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0658 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Discussion:**

Intel didn’t agree with the notes. The first part was agreed and incorporated into the revision of Intel's document.

Nokia: the notes should be made normative text.

Qualcomm: CT1 can develop their solution based on this note. Alf (NTT-Docomo) clarified that SA3 was doing stage 2. Ericsson replied that stage 3 needs to know when this procedure is triggered.

**Decision:** The document was **merged**.

**S3-192682 Description of issue of security context transfer following the handover from EPS to 5GS**

*Type: discussion For: Discussion  
 33.501 v..  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: this is a valid problem.

**Decision:** The document was **noted**.

**S3-192683 Security context transfer following the handover from EPS to 5GS**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0648 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm: this is pure network behaviour (not UICC and ME impacted). They also wanted to precise timing conditions for stage 3 for the target AMF mapping the new 5G security context.

NTT-Docomo: operators will need some implementation options for this configuration. They later withdrew this comment after offline discussions.

**Decision:** The document was **revised to S3-192998**.

**S3-192998 Security context transfer following the handover from EPS to 5GS**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0648 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192683)

**Decision:** The document was **agreed**.

**S3-192717 Changes on handover from 5GS to EPS over N26**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0652 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: this should be done in 8.6.2. It was commented that this was done already somewhere else.

QUALCOMM: sentence above 8.3.2 is not needed. Remove as editorial.

**Decision:** The document was **revised to S3-192999**.

**S3-192999 Changes on handover from 5GS to EPS over N26**

*Type: CR For: Approval  
 33.501 v15.5.0 CR-0652 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192717)

**Decision:** The document was **agreed**.

**S3-192940 Issues of resetting NAS COUNT values in 5G to 4G mobility**

*Type: discussion For: Endorsement  
 Source: Qualcomm Incorporated*

(Replaces S3-191916)

**Discussion:**

There seemed to be an agreement on having an issue here. Qualcomm solution brought some sympathies like from Ericsson, but it required some more discussions since Huawei wasn't convinced at all.

Nokia: KNodeB needs to be addressed.

**Decision:** The document was **noted**.

**S3-192563 NAS Count values in the mapped EPS security context in 5GS to EPS change**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0611 rev 1 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

(Replaces S3-191917)

**Decision:** The document was **agreed**.

**S3-192996 Notes of the offline session on AMF relocation**

*Type: report For: Information  
 Source: NTT-Docomo*

**Decision:** The document was **noted**.

**S3-193084 LS on security asepcts of AMF re-allocation procedure**

*Type: LS out For: Approval  
 to SA2, cc CT1  
 Source: Qualcomm*

**Discussion:**

this was split into two different versions: 195 and 196.

**Decision:** The document was **revised to S3-193195**.

**S3-193195 Draft LS on security asepcts of AMF re-allocation procedure**

*Type: LS out For: Approval  
 to SA2, cc CT1  
 Source: Ericsson*

(Replaces S3-193084)

**Decision:** The document was **merged**.

**S3-193194 Notes of the second offline session on AMF relocation**

*Type: report For: Information  
 Source: NTT-Docomo*

**Decision:** The document was **noted**.

**S3-193196 Draft LS on security asepcts of AMF re-allocation procedure**

*Type: other For: discussion  
 Source: Huawei*

**Discussion:**

This contains part of the LS in tdoc 084.

**Decision:** The document was **revised to S3-193197**.

**S3-193197 LS on security asepcts of AMF re-allocation procedure**

*Type: LS out For: Approval  
 to SA2, cc CT1  
 Source: Qualcomm*

(Replaces S3-193196)

**Decision:** The document was **approved**.

### 7.2 Security Assurance Specification for 5G (SCAS\_5G) (Rel-16)

#### 7.2.1 NR Node B (gNB) (TS 33.511)

**S3-192635 Categorization of the test cases and other editorial corrections**

*Type: CR For: Approval  
 33.511 v16.0.0 CR-0002 Cat: D (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

The CR proposes to categorize the test cases and make some editorial corrections.

**Discussion:**

MCC commented that it was not possible to renumber the clauses in an approved specification.

Huawei commented that there were CRs from the last meeting correcting editorial errors in these clauses. Possible conflicts had to be checked offline.

**Decision:** The document was **revised to S3-193003**.

**S3-193003 Editorial corrections on the threat references of some test cases**

*Type: CR For: Approval  
 33.511 v16.0.0 CR-0002 rev 1 Cat: D (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192635)

**Discussion:**

Keeping only editorials.

**Decision:** The document was **agreed**.

**S3-192763 Update requirements and test cases for gNB SCAS**

*Type: CR For: Approval  
 33.511 v16.0.0 CR-0003 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Nokia: in 33.117 this was already conditional. Not sure that this test case is needed.

MCC: The new clause has the wrong numbering, and there seems to be missing clauses from the baseline and a hanging paragraph.

**Decision:** The document was **revised to S3-193004**.

**S3-193004 Update requirements and test cases for gNB SCAS**

*Type: CR For: Approval  
 33.511 v16.0.0 CR-0003 rev 1 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192763)

**Decision:** The document was **agreed**.

**S3-192823 Test cases referring to TS 33.117**

*Type: CR For: Agreement  
 33.511 v16.0.0 CR-0004 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Discussion:**

Huawei suggested to handle these test cases for the next meeting in order to introduce modifications and not to remove them. Nokia agreed with Ericsson; no need to modify, but remove them.

Reformulate or convert them to negative tests: Steffan (Deutsche Telekom)

There was an agreement that the relevant test cases have a problem that needed to be addressed for the next meeting.

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**Decision:** The document was **not pursued**.

**S3-193001 Test cases referring to TS 33.117**

*Type: CR For: Agreement  
 33.511 v16.0.0 CR-0004 rev 1 Cat: F (Rel-16)  
  
 Source: Ericsson*

(Replaces S3-192823)

**Decision:** The document was **withdrawn**.

**S3-192833 Correction to test case requirement reference**

*Type: CR For: Agreement  
 33.511 v16.0.0 CR-0005 Cat: F (Rel-16)  
  
 Source: L.M. Ericsson Limited*

**Decision:** The document was **agreed**.

#### 7.2.2 Access and Mobility Management Function (TS 33.512)

**S3-192824 Test cases referring to TS 33.117**

*Type: pCR For: Approval  
 33.512 v0.8.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

**S3-193002 Test cases referring to TS 33.117**

*Type: pCR For: Approval  
 33.512 v0.8.0  
 Source: Ericsson*

**Decision:** The document was **withdrawn**.

**S3-192976 Comments on S3-192824**

*Type: discussion For: Approval  
 33.512 v..  
 Source: Huawei Technologies Co. Ltd.*

**Decision:** The document was **noted**.

**S3-192714 Adding AMF critical assets and threats to TS 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0026 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Draft CR agreed in the last meeting changed to a CR.

Ericsson: N26 interface AMF to MME should be added here in critical assets.

**Decision:** The document was **revised to S3-193005**.

**S3-193005 Adding AMF critical assets and threats to TS 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0026 rev 1 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192714)

**Decision:** The document was **agreed**.

**S3-193087 Draft TS 33.512**

*Type: draft TS For: Approval  
 33.512 v0.9.0  
 Source: Huawei*

**Decision:** The document was **approved**.

#### 7.2.3 User Plane Function (UPF) (TS 33.513)

**S3-192715 Adding UPF critical assets and threats to TS 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0027 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-193006**.

**S3-193006 Adding UPF critical assets and threats to TS 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0027 rev 1 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192715)

**Discussion:**

MCC pointed out that the introduction clause in the annex was referring to the whole document and not the specific annex, so this had to be reworded.

**ACTION: Check the scope of 33.926 and modify all the introduction clauses of all annexes to make them specific to the annex and not to the whole document by bringing new CRs.  
 (action on: Marcus (Huawei) / due by: 2019-11-14)**

**Decision:** The document was **agreed**.

**S3-192716 Editorial change on TS 33.513**

*Type: pCR For: Approval  
 33.513 v0.4.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-193009 Cover sheet TS 33.512 for approval**

*Type: TS or TR cover For: Approval  
 33.512 v..  
 Source: Huawei*

**Decision:** The document was **approved**.

**S3-193010 Cover sheet TS 33.513 for approval**

*Type: TS or TR cover For: Approval  
 33.513 v..  
 Source: Samsung*

**Decision:** The document was **approved**.

**S3-193024 Draft TS 33.513**

*Type: draft TS For: Approval  
 33.513 v0.5.0  
 Source: Samsung*

**Decision:** The document was **approved**.

#### 7.2.4 Unified Data Management (UDM) (TS 33.514)

**S3-192576 Editorial corrections for SCAS UDM TS 33.514 v0.5.0**

*Type: pCR For: Approval  
 33.514 v0.5.0  
 Source: NEC Corporation*

**Decision:** The document was **approved**.

**S3-192697 Editorial change on TS 33.514**

*Type: pCR For: Approval  
 33.514 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-192696 UDM critical assets and threats to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0019 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Huawei: the reference clause doesn't match the current baseline of 33.926. MCC added that the references were not used in the text, so the new references had to be removed.

**Decision:** The document was **revised to S3-193008**.

**S3-193008 UDM critical assets and threats to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0019 rev 1 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192696)

**Decision:** The document was **agreed**.

**S3-193007 Draft TS 33.514**

*Type: draft TS For: Approval  
 33.514 v0.6.0  
 Source: NEC*

**Decision:** The document was **approved**.

**S3-193011 Cover sheet TS 33.514 for approval**

*Type: TS or TR cover For: Approval  
 33.514 v..  
 Source: NEC*

**Decision:** The document was **approved**.

#### 7.2.5 Session Management Function (SMF) (TS 33.515)

**S3-192712 Adding SMF critical assets and threats to TS 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0025 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-193012**.

**S3-193012 Adding SMF critical assets and threats to TS 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0025 rev 1 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192712)

**Discussion:**

Issue with the introduction of the annex as the previous documents.

**Decision:** The document was **agreed**.

**S3-192713 Editorial change on TS 33.515**

*Type: pCR For: Approval  
 33.515 v0.4.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-193013**.

**S3-193013 Editorial change on TS 33.515**

*Type: pCR For: Approval  
 33.515 v0.4.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192713)

**Discussion:**

Executions steps in 4.2.2.1.3 had to be checked.

**Decision:** The document was **approved**.

**S3-193014 Draft TS 33.515**

*Type: draft TS For: Approval  
 33.515 v0.5.0  
 Source: Huawei*

**Decision:** The document was **approved**.

**S3-193015 Cover sheet TS 33.515 for approval**

*Type: TS or TR cover For: Approval  
 33.515 v..  
 Source: Huawei*

**Decision:** The document was **approved**.

#### 7.2.6 Authentication Server Function (AUSF) (TS 33.516)

**S3-192698 AUSF critical assets and threats to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0020 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-193016**.

**S3-193016 AUSF critical assets and threats to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0020 rev 1 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192698)

**Decision:** The document was **agreed**.

**S3-192699 Editorial change on TS 33.516**

*Type: pCR For: Approval  
 33.516 v0.2.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-193017 Draft TS 33.516**

*Type: draft TS For: Approval  
 33.516 v0.3.0  
 Source: Ericsson*

**Discussion:**

MCC warned that the document didn’t have any definitions and abbreviations. Ericsson commented that they would bring a CR for the next meeting to finish these clauses.

**Decision:** The document was **approved**.

**S3-193018 Cover sheet TS 33.516 for approval**

*Type: TS or TR cover For: Approval  
 33.516 v..  
 Source: Ericsson*

**Decision:** The document was **approved**.

#### 7.2.7 Security Edge Protection Proxy (SEPP) (TS 33.517)

**S3-192602 Living Document: New Annex for the SEPP in TR 33.926**

*Type: draftCR For: Approval  
 33.926 v16.0.1  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This is the living document for capturing the critical assets and threats for SEPP network product class in a separate Annex in TR 33.926. This is to be approved as the baseline for adding more potential threats in the Annex.

**Decision:** The document was **revised to S3-193138**.

**S3-193138 Living Document: New Annex for the SEPP in TR 33.926**

*Type: draftCR For: Approval  
 33.926 v16.0.1  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192602)

**Decision:** The document was **approved**.

**S3-192700 Editorial changes on SEPP critical assets and threats to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0021 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

This is converting the living document into a CR, but Nokia commented that there was still some input for the living documents so this was kept open.

**Decision:** The document was **revised to S3-193139**.

**S3-193139 Adding SEPP critical assets and threats to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0021 rev 1 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192700)

**Decision:** The document was **agreed**.

**S3-192657 Threat analysis on misplacement of encrypted IE in JSON object by IPX**

*Type: draftCR For: Approval  
 33.926 v16.0.1  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This draftCR proposes to add the threat analysis on encrypted IE in JSON object misplaced by IPX.

**Discussion:**

Huawei: this is not needed. There are no threats.

Nokia: we have described an attack, of course there are threats.

**Decision:** The document was **revised to S3-193085**.

**S3-193085 Threat analysis on misplacement of encrypted IE in JSON object by IPX**

*Type: draftCR For: Approval  
 33.926 v16.0.1  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192657)

**Decision:** The document was **approved**.

**S3-192658 Test Case: No misplacement of encrypted IE in JSON object by IPX**

*Type: pCR For: Approval  
 33.517 v0.5.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes to add a new test case for no misplacement of encrypted IE in JSON object by IPX.

**Decision:** The document was **revised to S3-193086**.

**S3-193086 Test Case: No misplacement of encrypted IE in JSON object by IPX**

*Type: pCR For: Approval  
 33.517 v0.5.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192658)

**Decision:** The document was **approved**.

**S3-192660 Add the missing expected format of evidence**

*Type: pCR For: Approval  
 33.517 v0.5.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes to add the expected format of evidence currently missing in test cases in TR 33.517 sub-clauses 4.2.2.2 and 4.2.2.3.

**Decision:** The document was **approved**.

**S3-192701 Editorial change on TS 33.517**

*Type: pCR For: Approval  
 33.517 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-193019 Draft TS 33.517**

*Type: draft TS For: Approval  
 33.517 v0.6.0  
 Source: Nokia*

**Discussion:**

MCC urged the Rapporteurs to add acronyms to the specifications, especially TS since most of them were not present in TR 21.905.

**Decision:** The document was **approved**.

**S3-193198 Cover sheet TS 33.517 for approval**

*Type: TS or TR cover For: Approval  
 33.517 v..  
 Source: Nokia*

**Decision:** The document was **approved**.

#### 7.2.8 Network Resource Function (NRF) (TS 33.518)

**S3-192603 Living Document: New Annex for the NRF in TR 33.926**

*Type: draftCR For: Decision  
 33.926 v16.0.1  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This is the living document for capturing the critical assets and threats for NRF network product class in a separate Annex in TR 33.926. It is to be discussed for decision to change it into a CR.

**Decision:** The document was **approved**.

**S3-192702 Adding NRF critical assets and threats to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0022 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

This is converting the living document into a CR.

**Decision:** The document was **revised to S3-193020**.

**S3-193020 Adding NRF critical assets and threats to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0022 rev 1 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192702)

**Discussion:**

It removes the new changes and it maintains the original changes from the living document.

**Decision:** The document was **agreed**.

**S3-192703 Editorial change on TS 33.518**

*Type: pCR For: Approval  
 33.518 v0.4.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-193022 Draft TS 33.518**

*Type: draft TS For: Approval  
 33.518 v0.5.0  
 Source: Nokia*

**Discussion:**

MCC pointed out that all SCAS specs needed a note explaining why 33.501 release 15 was being referenced instead of the same release as the current TS, if there would be backward compatibility problems if this wasn't done, etc.. It was agreed that Rapporteurs brought CRs for the same meeting to add such note. It was also noted that "v15" was not correct and "release 15" should be written instead.

**Decision:** The document was **approved**.

**S3-193023 Cover sheet draft TS 33.518 for approval**

*Type: TS or TR cover For: Approval  
 33.518 v..  
 Source: Nokia*

**Discussion:**

MCC commented that unfinished work should appear in "outstanding issues": e.g. definitions, abbreviations and test cases that needed to be brought.

**Decision:** The document was **approved**.

#### 7.2.9 Network Exposure Function (NEF) (TS 33.519)

**S3-192626 Adding abbreviation**

*Type: pCR For: Approval  
 33.519 v0.5.0  
 Source: ZTE Corporation*

**Decision:** The document was **revised to S3-193025**.

**S3-193025 Adding abbreviation**

*Type: pCR For: Approval  
 33.519 v0.5.0  
 Source: ZTE Corporation*

(Replaces S3-192626)

**Decision:** The document was **approved**.

**S3-192704 Adding NEF critical assets and threats to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0023 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-193027**.

**S3-193027 Adding NEF critical assets and threats to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0023 rev 1 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192704)

**Discussion:**

Rewording the Introduction to refer to the annex and not the whole document, and fixing editorials as suggested as Ericsson.

**Decision:** The document was **agreed**.

**S3-193026 Draft TS 33.519**

*Type: draft TS For: Approval  
 33.519 v0.6.0  
 Source: ZTE*

**Decision:** The document was **approved**.

#### 7.2.10 Other 5G SCAS aspects

**S3-192601 Living Document: General SBA/SBI aspects in TS 33.117**

*Type: draftCR For: Decision  
 33.117 v16.1.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This is the living document for capturing the general SBA/SBI aspects in TS 33.117. It is presented for decision to change it into a CR.

**Decision:** The document was **approved**.

**S3-192706 Update of living Document: General SBA/SBI aspects in TS 33.117**

*Type: CR For: Approval  
 33.117 v16.1.0 CR-0047 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-193029**.

**S3-193029 Addition of general SBA/SBI aspects in TS 33.117**

*Type: CR For: Approval  
 33.117 v16.1.0 CR-0047 rev 1 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon,Nokia*

(Replaces S3-192706)

**Discussion:**

Comments on the clause numbering provided by MCC. The spec baseline had to be checked.

**Decision:** The document was **agreed**.

**S3-192705 Adding critical assets and threats for general NFs to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0024 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: the title of the annex is not descriptive of the network product class. This was revised to change the title.

**Decision:** The document was **revised to S3-193030**.

**S3-193030 Adding critical assets and threats for general NFs to TR 33.926**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0024 rev 1 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192705)

**Decision:** The document was **agreed**.

**S3-193028 Cover sheet TS 33.519 for approval**

*Type: TS or TR cover For: Approval  
 33.519 v..  
 Source: ZTE*

**Decision:** The document was **approved**.

### 7.3 eMCSec R16 security (MCXSec) (Rel-16)

**S3-192519 Clarifications for Protected MCData**

*Type: CR For: Agreement  
 33.180 v16.0.0 CR-0115 Cat: F (Rel-16)  
  
 Source: Airbus DS SLC*

**Abstract:**

TS 33.180 and TS 24.282 specify Protected MCData in an incompatible way.

**Discussion:**

Motorola: this is not needed. NCSC agreed.

Samsung: too many stage 3 parameters. This is not needed.

**Decision:** The document was **revised to S3-193021**.

**S3-193021 Clarifications for Protected MCData**

*Type: CR For: Agreement  
 33.180 v16.0.0 CR-0115 rev 1 Cat: F (Rel-16)  
  
 Source: Airbus DS SLC*

(Replaces S3-192519)

**Decision:** The document was **not pursued**.

**S3-192963 Algorithm Negotiation**

*Type: CR For: Agreement  
 33.180 v16.0.0 CR-0116 Cat: B (Rel-16)  
  
 Source: Samsung*

**Discussion:**

NCSC preferred to follow the way of not changing the algorithms but the key length of the algorithms.

The contribution was taken offline.

**Decision:** The document was **not pursued**.

**S3-193043 Algorithm Negotiation**

*Type: CR For: Agreement  
 33.180 v16.0.0 CR-0116 rev 1 Cat: B (Rel-16)  
  
 Source: Samsung*

**Decision:** The document was **withdrawn**.

### 7.4 Security aspects of single radio voice continuity from 5GS to UTRAN (5GS\_UTRAN\_SEC) (Rel-16)

**S3-192918 Adding K5GSRVCC as a possible input key to derive IKSRVCC and CKSRVCC**

*Type: CR For: Agreement  
 33.401 v15.8.0 CR-0680 rev 2 Cat: B (Rel-16)  
  
 Source: Qualcomm Incorporated*

(Replaces S3-192338)

**Decision:** The document was **revised to S3-193047**.

**S3-193047 Adding K5GSRVCC as a possible input key to derive IKSRVCC and CKSRVCC**

*Type: CR For: Agreement  
 33.401 v15.8.0 CR-0680 rev 3 Cat: B (Rel-16)  
  
 Source: Qualcomm Incorporated*

(Replaces S3-192918)

**Decision:** The document was **agreed**.

**S3-192923 Correction to figure in draft CR for 5G to UTRAN CS SRVCC**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, China Unicom*

**Decision:** The document was **revised to S3-193044**.

**S3-193044 Correction to figure in draft CR for 5G to UTRAN CS SRVCC**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, China Unicom*

(Replaces S3-192923)

**Decision:** The document was **approved**.

**S3-192922 Draft CR for SRVCC 5G to UTRAN**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: China Unicom, Qualcomm Incoporated*

(Replaces S3-192335)

**Discussion:**

It was argued whether the CR could be ready for the current meeting to finalise the work for once and all, but the Rapporteur needed to be consulted since she was absent.

**Decision:** The document was **revised to S3-193045**.

**S3-193045 Draft CR for SRVCC 5G to UTRAN**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: China Unicom, Qualcomm Incoporated*

(Replaces S3-192922)

**Decision:** The document was **approved**.

**S3-193046 Security for SRVCC 5G to UTRAN CS**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0660 Cat: B (Rel-16)  
  
 Source: Qualcomm,China Unicom*

**Discussion:**

Qualcomm commented that China Unicom had agreed to help on this CR, but no confirmation from them had been received.

**Decision:** The document was **agreed**.

### 7.5 Enhancements for Security aspects of Common API Framework for 3GPP Northbound APIs (eCAPIF) (Rel-16)

**S3-192955 Security procedures for CAPIF-7/7e reference points**

*Type: CR For: Agreement  
 33.122 v16.0.0 CR-0024 Cat: B (Rel-16)  
  
 Source: Samsung*

**Decision:** The document was **agreed**.

**S3-192956 Security procedures for CAPIF-3e/4e/5e reference points**

*Type: CR For: Agreement  
 33.122 v16.0.0 CR-0025 Cat: B (Rel-16)  
  
 Source: Samsung*

**Discussion:**

Nokia had doubts about referencing both 210 and 310. This was taken offline.

**Decision:** The document was **agreed**.

### 7.6 Security of URLLC for 5GS (5G\_URLLC\_SEC) (Rel-16)

**S3-192766 draftCR for URLLC**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson preferred to move content to an annex instead of deleting the text.

**Decision:** The document was **revised to S3-193048**.

**S3-193048 draftCR for URLLC**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: Huawei, Hisilicon, Qualcomm*

(Replaces S3-192766)

**Decision:** The document was **approved**.

**S3-192942 Skeleton of URLLC**

*Type: draftCR For: Agreement  
 33.501 v15.5.0  
 Source: Qualcomm Incorporated*

**Decision:** The document was **merged**.

**S3-192873 Introduction to URLLC services**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: Ericsson*

**Decision:** The document was **merged**.

**S3-192874 Retaining AS security keys for redundant data transmission in user plane**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: Ericsson*

**Discussion:**

Qualcomm: there is nothing new here, what is the reference for?

**Decision:** The document was **noted**.

**S3-192875 Redundant paths using Dual Connectivity for URLLC services - introduction**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: Ericsson*

**Decision:** The document was **merged**.

**S3-192876 Redundant paths using Dual Connectivity for URLLC services – security keys derivation**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: Ericsson*

**Discussion:**

Qualcomm: this clause is not needed. Huawei agreed, but the content could be added to the introduction. This was agreed.

**Decision:** The document was **merged**.

**S3-192877 Redundant paths using Dual Connectivity for URLLC services - security policy aspects**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: Ericsson*

**Discussion:**

The use of "should" in the second paragraph had to be removed given that Qualcomm argued that this had to be a "shall" and there was no agreement.

**Decision:** The document was **merged**.

**S3-192878 Redundant paths using Dual Connectivity for URLLC services – UP security activation status**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: Ericsson*

**Decision:** The document was **merged**.

### 7.7 Security for 5GS Enhanced support of Vertical and LAN Services (Vertical\_LAN\_SEC) (Rel-16)

**S3-192593 Endorsement of CR on Non-public network security**

*Type: discussion For: Agreement  
 33.501 v..  
 Source: Qualcomm, Nokia, Nokia Shanghai Bell*

**Decision:** The document was **noted**.

**S3-192592 Security for non-public networks - update to S3-192453**

*Type: draftCR For: Agreement  
 33.501 v15.5.0  
 Source: Qualcomm, Nokia, Nokia Shanghai Bell*

**Discussion:**

The note on Z.2.2 was reworded as Orange had issues with it. There was an agreement on non-3GPP credentials from a previous meeting and this had to be checked offline. There was also an added clarification for the use of non AKA EAP methods.

Telecom Italia: Non AKA could be confusing, it could also be TLS. Public networks non standalone are also considered here? Nokia replied that these were also considered apart and discussed offline and done in TS 33.501. Telecom Italia commented that in that case the annex was incomplete without his scenario. Orange agreed to add an editor's note on this part (security aspects for other NPN issues including integrated non-public networks are FFS).

Interdigital: non-AKA should be defined here. It doesn’t stand for a generic AKA but for a specific AKA. Orange preferred not to go for a definition for this term, but replace it with the specific 5G-AKA or EAP-AKA' where it corresponds. It was argued that non-AKA implied both and nothing was needed to be done for the sake of legibility of the text.

**Decision:** The document was **revised to S3-193049**.

**S3-193049 Security for non-public networks - update to S3-192453**

*Type: draftCR For: Agreement  
 33.501 v15.5.0  
 Source: Qualcomm, Nokia, Nokia Shanghai Bell*

(Replaces S3-192592)

**Discussion:**

Orange objected to NOTE 2: not clear how the credentials EAP-AKA' and 5G AKA are stored. ORANGE TO PROVIDE EXACT WORDING. Thales commented that there had been previous agreement on the note.

The Chair clarified that this was a draft CR in any case.

**Decision:** The document was **approved**.

**S3-192577 Security for non-public networks**

*Type: CR For: (not specified)  
 33.501 v15.5.0 CR-0641 Cat: B (Rel-16)  
  
 Source: Qualcomm Incorporated, Nokia, Nokia Shanghai Bell*

**Abstract:**

This document is based on Draft CR S3-192453 that describes the security changes in 33.501 when using non-public networks and was agreed in SA3-95bis meeting. This document is providing the corresponding CR on the correct baseline version of 33.501.

**Decision:** The document was **revised to S3-193051**.

**S3-193051 Security for non-public networks**

*Type: CR For: -  
 33.501 v15.5.0 CR-0641 rev 1 Cat: B (Rel-16)  
  
 Source: Qualcomm Incorporated, Nokia, Nokia Shanghai Bell*

(Replaces S3-192577)

**Decision:** The document was **agreed**.

**S3-192924 Some proposed editorial changes to NPN draft CR**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, Nokia, Nokia Shanghai Bell*

**Decision:** The document was **approved**.

**S3-192927 SUCI privacy for SNPN**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, Nokia, Nokia Shanghai Bell*

**Discussion:**

Gemalto and IDEMIA argued that the first sentence was preventing the storage in the USIM and that wasn't true.

Alf (NTT-Docomo) pointed out that privacy was needed and offered to rephrase the first sentence to address Gemalto's comments.

Orange asked if the privacy topic mentioned here would go any further, and Qualcomm replied that this was enough.

Alf (NTT-Docomo): add a requirement on SUPI privacy shall protect the privacy of the SUCI. Orange didn't agree with this since it would not be clear where and how this would happen.

Qualcomm: privacy may happen outside the USIM.

Orange: don't mandate it in the ME.

It was also agreed to change the title of the clause to address the SUPI instead of the SUCI.

This was taken offline.

**Decision:** The document was **revised to S3-193050**.

**S3-193050 SUCI privacy for SNPN**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, Nokia, Nokia Shanghai Bell*

(Replaces S3-192927)

**Decision:** The document was **approved**.

### 7.8 Security of Cellular IoT for 5GS (CIoT\_sec\_5G) (Rel-16)

**S3-192508 Reply LS on RRC Connection Re-Establishment for CP for NB-IoT connected to 5GC**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1908553*

**Decision:** The document was **noted**.

**S3-192511 Reply LS on authentication of group of IoT devices**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1908632*

**Decision:** The document was **noted**.

**S3-192977 Reply LS on authentication of group of IoT devices**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: S1-192816*

**Decision:** The document was **noted**.

**S3-192959 DraftCR - Proposed skeleton for supporting 5G CIoT**

*Type: draftCR For: (not specified)  
 33.501 v15.5.0  
 Source: Ericsson, Nokia*

**Discussion:**

The definition was controversial, as Huawei didn’t agree with it. The definition was removed.

Vodafone pointed out that several other clauses could be affected and not only under 6. This was agreed to be checked for the next meeting.

An editor's note was added on the alignment with SA2 and RAN.

**Decision:** The document was **revised to S3-193052**.

**S3-193052 DraftCR - Proposed skeleton for supporting 5G CIoT**

*Type: draftCR For: -  
 33.501 v15.5.0  
 Source: Ericsson, Nokia*

(Replaces S3-192959)

**Decision:** The document was **approved**.

**S3-192961 DraftCR-Control Plane Optimization for CIoT in 5G**

*Type: draftCR For: (not specified)  
 33.501 v15.5.0  
 Source: Ericsson*

**Discussion:**

Nokia: not part of the study and even in LTE we didn’t do this.

Huawei: not sure if this is aligned with SA2 and RAN either on the gNodeB.

Nokia commented that this needed more study and proposed to postpone this part.

**Decision:** The document was **noted**.

**S3-192775 Security handling in Control Plane User Data for Control Plane Optimization for 5GS CIoT**

*Type: other For: Approval  
 33.501 v..  
 Source: Huawei, Hisilicon*

**Discussion:**

Nokia: security for the control plane hasn't been handled yet in the study. This can be addressed in the next meeting.

Qualcomm: no need to rush, the second paragraph is still being discussed in CT1. Martin (AT&T) commented that no assumptions could be done in the control plane since there were still numerous discussions in CT1.

This topic was postponed for the next meeting.

**Decision:** The document was **noted**.

**S3-192776 Protection of Non-IP Data Delivery (NIDD) interfaces**

*Type: other For: Approval  
 33.501 v-  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-192948 New Solution for botnet threats caused by improper CIOT device usage**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: NIST, ATT, SPRINT, CABLE LABS, CISCO*

**Abstract:**

Solutions to address key issue related botnet attacks caused by improper CIOT device usage

**Decision:** The document was **revised to S3-192960**.

### 7.9 Security of the Wireless and Wireline Convergence for the 5G system architecture (5WWC\_SEC) (Rel-16)

**S3-192760 skeleton of 5WWC**

*Type: other For: Approval  
 33.501 v-  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: better to add another subclause than renaming existing ones. Nokia agreed with this.MCC commented that it was better to add subclauses for the wireline access and the non-3GPP access: 7a and 7b.

**Decision:** The document was **revised to S3-193053**.

**S3-193053 skeleton of 5WWC**

*Type: draftCR For: Approval  
 33.501 v-  
 Source: Huawei, Hisilicon*

(Replaces S3-192760)

**Discussion:**

This will be the living document that captures the inputs of this agenda item.

**Decision:** The document was **approved**.

**S3-192581 Add a new Annex for the authentication of non-5GC NAS capable devices in WWC**

*Type: draftCR For: Agreement  
 33.501 v15.5.0  
 Source: CableLabs, Charter Communications, Nokia, Nokia Shanghai Bell, Lenovo, Motorola Mobility, Ericsson, Comcast, Rogers Communications*

**Discussion:**

Orange: this procedure will not be mandated, so the annex should be informative.

Deutsche Telekom: you need to add the acronym and definition of W-AGF.

Telecom Italia queried whether this was for the study, then the CR would not be valid. It was clarified that this was a draft CR for the normative work item.

Finally it was agreed to merge this into the living document/ draft CR that would introduce all 5WWC changes.

There was some discussion about the term "N5GC device": Orange warned that there were two terms for the devices in SA2 and that in SA3 they had to be more specific and use only one. It was proposed to use "Non 5GC device" and this was agreed.

Interdigital questioned using a flow diagram from SA2 that would have to be updated every time it was changed in that WG.

**Decision:** The document was **revised to S3-193054**.

**S3-193054 Add a new Annex for the authentication of non-5GC NAS capable devices in WWC**

*Type: draftCR For: Agreement  
 33.501 v15.5.0  
 Source: CableLabs, Charter Communications, Nokia, Nokia Shanghai Bell, Lenovo, Motorola Mobility, Ericsson, Comcast, Rogers Communications*

(Replaces S3-192581)

**Decision:** The document was **approved**.

### 7.10 Security aspects of Enhanced Network Slicing (eNS\_SEC) (Rel-16)

**S3-192726 Slice-specific authentication**

*Type: draftCR For: Agreement  
 33.501 v15.5.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Nokia: postpone this for next meeting.

Vodafone: how is the network going to agree with what methods are going to be used? We need a framework, there are lot of options.

Telecom Italia: the slice is internal by definition, not be confused with secondary authentication.

Huawei conceded and promised to bring contributions to address all concerns.

**Decision:** The document was **noted**.

### 7.11 Other work areas

#### 7.11.1 SAE/LTE Security

**S3-192861 Security of RRC UE capability transfer procedure in EPS**

*Type: CR For: Agreement  
 33.401 v15.8.0 CR-0682 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Discussion:**

Nokia: not only control optimization UEs but applicable for all UEs.

NTT-Docomo: if the UE does not AES security this is not going to work. This doesn’t provide security for control optimized Ues/ CIoT. They wanted to create an action item/editor's note to provide the missing part in the future; an additional problem that needed to be fixed.

It was commented that this was enough to respond to the LS but the CIoT scenario needed to be considered as well in the future.

The Chair commented that a quick answer was needed since this affected release 15; if the new problem was in release 15, this would need to be told to other WGs.

This was taken offline.

**Decision:** The document was **revised to S3-193074**.

**S3-193074 Security of RRC UE capability transfer procedure in EPS**

*Type: CR For: Agreement  
 33.401 v15.8.0 CR-0682 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-192861)

**Decision:** The document was **not pursued**.

#### 7.11.2 IP Multimedia Subsystem (IMS) Security

#### 7.11.3 Network Domain Security (NDS)

**S3-192578 General NDS/IP SEG support for non-SBA interfaces**

*Type: CR For: (not specified)  
 33.501 v15.5.0 CR-0642 Cat: C (Rel-16)  
  
 Source: Juniper Networks*

**Decision:** The document was **revised to S3-193000**.

**S3-193000 General NDS/IP SEG support for non-SBA interfaces**

*Type: CR For: -  
 33.501 v15.5.0 CR-0642 rev 1 Cat: F (Rel-15)  
  
 Source: Juniper Networks*

(Replaces S3-192578)

**Discussion:**

Revised given that the document could not be opened by some (including MCC).

**Decision:** The document was **agreed**.

#### 7.11.4 UTRAN Network Access Security

#### 7.11.5 GERAN Network Access Security

#### 7.11.6 Generic Authentication Architecture (GAA)

#### 7.11.7 Security Aspects of Home(e)NodeB (H(e)NB)

#### 7.11.8 Mission Critical (MCPTT, MCSec, eMCSec, MONASTERY\_SEC)

**S3-192516 Reply LS on ETSI Plugtest standards issues**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S6-191525*

**Decision:** The document was **noted**.

#### 7.11.9 Security Assurance Specifications (SCAS-SA3, SCAS\_PGW, SCAS\_eNB)

**S3-192652 Additional Critical Assets and Threats to PGW Annex R16**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0017 Cat: A (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes additional critical assets and threats to PGW Annex in TR 33.926 R16. This is the R16 mirror of S3-192653 for R15.

**Decision:** The document was **revised to S3-193033**.

**S3-193033 Additional Critical Assets and Threats to PGW Annex R16**

*Type: CR For: Approval  
 33.926 v16.0.1 CR-0017 rev 1 Cat: A (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192652)

**Decision:** The document was **agreed**.

**S3-192653 Additional Critical Assets and Threats to PGW Annex R15**

*Type: CR For: Approval  
 33.926 v15.1.0 CR-0018 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes additional critical assets and threats to PGW Annex in TR 33.926 Release 15.

**Discussion:**

It was clarified that the CR should be cat-F.

**Decision:** The document was **revised to S3-193031**.

**S3-193031 Additional Critical Assets and Threats to PGW Annex R15**

*Type: CR For: Approval  
 33.926 v15.1.0 CR-0018 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192653)

**Decision:** The document was **agreed**.

**S3-192654 Adding Threat References to PGW Test Cases R15**

*Type: CR For: Approval  
 33.250 v15.0.0 CR-0004 Cat: A (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes to add the missing requirement and threat references for the PGW test cases in Release 15.

**Discussion:**

Changed the category to A and creating a new CR to do the correction in release 14.

**Decision:** The document was **revised to S3-193035**.

**S3-193035 Adding Threat References to PGW Test Cases R15**

*Type: CR For: Approval  
 33.250 v15.0.0 CR-0004 rev 1 Cat: A (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192654)

**Decision:** The document was **agreed**.

**S3-192707 Clarification on test cases in TR 33.117**

*Type: CR For: Approval  
 33.117 v14.5.0 CR-0048 Cat: F (Rel-14)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Deutsche Telekom objected to deleting the last two bullets in the second change.

It was noted that the cover sheet referred to the wrong release and it had the wrong categroy.

**Decision:** The document was **revised to S3-193036**.

**S3-193036 Clarification on test cases in TR 33.117**

*Type: CR For: Approval  
 33.117 v14.5.0 CR-0048 rev 1 Cat: F (Rel-14)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192707)

**Decision:** The document was **agreed**.

**S3-192761 Update testcase of 4.2.4.1.1.2 and 4.2.4.1.1.3**

*Type: CR For: Approval  
 33.117 v14.5.0 CR-0049 Cat: F (Rel-14)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **agreed**.

**S3-192762 Update test cases for 4.3.2.3,4.3.2.4, and 4.3.2.5**

*Type: CR For: Approval  
 33.117 v14.5.0 CR-0050 Cat: F (Rel-14)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Deutsche Telekom wasn't fine with this.

**Decision:** The document was **not pursued**.

**S3-192764 Update requirements and test cases for eNB SCAS**

*Type: CR For: Approval  
 33.216 v15.0.0 CR-0003 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-193041**.

**S3-193041 Update requirements and test cases for eNB SCAS**

*Type: CR For: Approval  
 33.216 v15.0.0 CR-0003 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-192764)

**Decision:** The document was **agreed**.

**S3-193032 Additional Critical Assets and Threats to PGW Annex R14**

*Type: CR For: Agreement  
 33.926 v14.0.0 CR-0028 Cat: F (Rel-14)  
  
 Source: Nokia*

**Decision:** The document was **agreed**.

**S3-193034 Adding Threat References to PGW Test Cases R14**

*Type: CR For: Agreement  
 33.250 v14.0.0 CR-0005 Cat: F (Rel-14)  
  
 Source: Nokia*

**Decision:** The document was **agreed**.

**S3-193037 Clarification on test cases in TS 33.117**

*Type: CR For: Agreement  
 33.117 v15.3.0 CR-0051 Cat: A (Rel-15)  
  
 Source: Huawei*

**Decision:** The document was **agreed**.

**S3-193038 Clarification on test cases in TS 33.117**

*Type: CR For: Agreement  
 33.117 v16.1.0 CR-0052 Cat: A (Rel-16)  
  
 Source: Huawei*

**Decision:** The document was **agreed**.

**S3-193039 Update testcase of 4.2.4.1.1.2 and 4.2.4.1.1.3**

*Type: CR For: Agreement  
 33.117 v15.3.0 CR-0053 Cat: A (Rel-15)  
  
 Source: Huawei*

**Decision:** The document was **agreed**.

**S3-193040 Update testcase of 4.2.4.1.1.2 and 4.2.4.1.1.3**

*Type: CR For: Agreement  
 33.117 v16.1.0 CR-0054 Cat: A (Rel-16)  
  
 Source: Huawei*

**Decision:** The document was **agreed**.

**S3-193042 Update requirements and test cases for eNB SCAS**

*Type: CR For: Agreement  
 33.216 v16.0.0 CR-0004 Cat: A (Rel-16)  
  
 Source: Huawei*

**Decision:** The document was **agreed**.

#### 7.11.10 Security Aspects of Narrowband IOT (CIoT)

**S3-192510 Reply LS on Mobile-terminated Early Data Transmission**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1908629*

**Discussion:**

Security issues: Huawei didn’t think there were any.

It was then discussed whether to acknowledge the security issues and just say that it would require additional work. This was agreed.

**Decision:** The document was **replied to in S3-193059**.

**S3-193059 Reply to: Reply LS on Mobile-terminated Early Data Transmission**

*Type: LS out For: approval  
 to SA2,RAN2,RAN3,CT1  
 Source: Nokia*

**Discussion:**

Confirming SA2's assumption.

**Decision:** The document was **approved**.

**S3-192582 Discussion paper on MT EDT LS from SA2**

*Type: discussion For: Endorsement  
 Source: Nokia, Nokia Shangahi Bell*

**Abstract:**

discussion on the MT EDT LS from SA2

**Decision:** The document was **noted**.

**S3-192767 Discussion on security of MSG2 MT-EDT solution**

*Type: discussion For: Decision  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-192768 Reply LS on Security of MT-EDT**

*Type: LS out For: Approval  
 to SA2, RAN2, RAN3, CT1  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-192857 [DRAFT] Reply LS on Mobile-terminated Early Data Transmission**

*Type: LS out For: (not specified)  
 to SA2, RAN2, RAN3, CT1, CT4  
 Source: Ericsson*

**Decision:** The document was **noted**.

**S3-192858 Discussion on security of MT-EDT**

*Type: discussion For: (not specified)  
 Source: Ericsson*

**Discussion:**

Qualcomm, Intel: no need for message 4 solution.

Nokia: we should answer both message 2 and 4 solutions.

**Decision:** The document was **noted**.

**S3-192934 Discussion on SA2 LS for MT EDT**

*Type: discussion For: Endorsement  
 Source: Qualcomm Incorporated*

**Discussion:**

Ericsson: no need to take RAN considerations here.

Huawei supported this.

**Decision:** The document was **noted**.

**S3-192935 Reply LS on MT EDT**

*Type: LS out For: Approval  
 to SA2, RAN2, RAN3, CT1  
 Source: Qualcomm Incorporated*

**Decision:** The document was **noted**.

#### 7.11.11 EPC enhancements to support 5G New Radio via Dual Connectivity (EDCE5)

#### 7.11.12 Northbound APIs Security for SCEF - SCS/AS Interworking (NAPS\_Sec) (Rel-15)

#### 7.11.13 Security Aspects of Common API Framework for 3GPP Northbound APIs (CAPIF\_Sec) (Rel-15)

#### 7.11.14 PLMN RAT selection (Steering of Roaming) (Rel-15)

**S3-192632 Add missing message flow for Procedure for steering of UE**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0647 Cat: F (Rel-15)  
  
 Source: Intel Deutschland GmbH*

**Discussion:**

Vodafone: the bullet points now don’t reflect the change in the figure.

Ericsson: is this a correction? Intel replied that this was aligned with SA2. On the other hand, this didn’t have to updated according to Release 16 changes since there was no significant impact.

**Decision:** The document was **revised to S3-193060**.

**S3-193060 Add missing message flow for Procedure for steering of UE**

*Type: CR For: Agreement  
 33.501 v15.5.0 CR-0647 rev 1 Cat: F (Rel-15)  
  
 Source: Intel Deutschland GmbH*

(Replaces S3-192632)

**Decision:** The document was **agreed**.

#### 7.11.15 Battery Efficient Security for very low Throughput Machine Type Communication Devices (BEST\_MTC\_Sec) (Rel-15)

**S3-192579 Minor corrections to 33163**

*Type: CR For: Approval  
 33.163 v15.5.0 CR-0012 Cat: F (Rel-15)  
  
 Source: Juniper Networks*

**Decision:** The document was **revised to S3-193061**.

**S3-193061 Minor corrections to 33163**

*Type: CR For: Approval  
 33.163 v15.5.0 CR-0012 rev 1 Cat: F (Rel-15)  
  
 Source: Juniper Networks*

(Replaces S3-192579)

**Decision:** The document was **agreed**.

**S3-192580 Minor corrections to 33163**

*Type: CR For: Approval  
 33.163 v16.1.0 CR-0013 Cat: A (Rel-16)  
  
 Source: Juniper Networks*

**Decision:** The document was **revised to S3-193062**.

**S3-193062 Minor corrections to 33163**

*Type: CR For: Approval  
 33.163 v16.1.0 CR-0013 rev 1 Cat: A (Rel-16)  
  
 Source: Juniper Networks*

(Replaces S3-192580)

**Decision:** The document was **agreed**.

**S3-192655 Discussion Document on how to use BEST as a bearer for services and as a means to provide multiple secure channels over 1 bearer**

*Type: discussion For: Discussion  
 Source: Vodafone España SA*

**Decision:** The document was **noted**.

#### 7.11.16 Other work items

**S3-192668 Removing references of TS 103 383 in TS 35.231**

*Type: CR For: Approval  
 35.231 v12.1.0 CR-0002 Cat: F (Rel-12)  
  
 Source: Orange*

**Decision:** The document was **revised to S3-192982**.

**S3-192982 Removing references of TS 103 383 in TS 35.231**

*Type: CR For: Approval  
 35.231 v12.1.0 CR-0002 rev 1 Cat: F (Rel-12)  
  
 Source: Orange*

(Replaces S3-192668)

**Decision:** The document was **agreed**.

**S3-192669 Removing references of TS 103 383 in TS 35.231**

*Type: CR For: Approval  
 35.231 v13.0.0 CR-0003 Cat: A (Rel-13)  
  
 Source: Orange*

**Decision:** The document was **revised to S3-192983**.

**S3-192983 Removing references of TS 103 383 in TS 35.231**

*Type: CR For: Approval  
 35.231 v13.0.0 CR-0003 rev 1 Cat: A (Rel-13)  
  
 Source: Orange*

(Replaces S3-192669)

**Decision:** The document was **agreed**.

**S3-192671 Removing references of TS 103 383 in TS 35.231**

*Type: CR For: Approval  
 35.231 v14.0.0 CR-0004 Cat: A (Rel-14)  
  
 Source: Orange*

**Decision:** The document was **revised to S3-192984**.

**S3-192984 Removing references of TS 103 383 in TS 35.231**

*Type: CR For: Approval  
 35.231 v14.0.0 CR-0004 rev 1 Cat: A (Rel-14)  
  
 Source: Orange*

(Replaces S3-192671)

**Decision:** The document was **agreed**.

**S3-192672 Removing references of TS 103 383 in TS 35.231**

*Type: CR For: Approval  
 35.231 v15.0.0 CR-0005 Cat: A (Rel-15)  
  
 Source: Orange*

**Decision:** The document was **revised to S3-192985**.

**S3-192985 Removing references of TS 103 383 in TS 35.231**

*Type: CR For: Approval  
 35.231 v15.0.0 CR-0005 rev 1 Cat: A (Rel-15)  
  
 Source: Orange*

(Replaces S3-192672)

**Decision:** The document was **agreed**.

### 7.12 New Work Item proposals

**S3-192605 New WID on Security aspects of enhancements to the Service-Based 5G System Architecture**

*Type: WID new For: Agreement  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

New WID on Security aspects of enhancements to the Service-Based 5G System Architecture

**Discussion:**

It was pointed out that there were open items in the study that shouldn't be included in the objectives yet (e.g. N9).

NCSC preferred to have N9 interface included in the objectives.

Nokia commented that if not decided for the study, a CR could cover all the N9 issues separately. The Chair clarified that even for that CR a WID would be needed as recently pointed out by SA (new features to be covered with new WIDs and not TEI16 CRs).

Ericsson had issues with the objectives.

This was taken offline and awaiting for the end of the discussions in the study.

**Decision:** The document was **revised to S3-193055**.

**S3-193055 New WID on Security aspects of enhancements to the Service-Based 5G System Architecture**

*Type: WID new For: Agreement  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192605)

**Decision:** The document was **agreed**.

**S3-192636 WID of 5GFBS**

*Type: WID new For: Approval  
 Source: Apple*

**Discussion:**

Orange: there is no conclusion in the study that allows us to go for normative work. No objection to normative work for false base station, only for starting the normative work now. QUALCOMM and BT were of the same opinion. NTT-Docomo proposed to postpone this until the study was finished.

Qualcomm: we should focus on studying solutions and evaluating them before starting the normative work.

CableLabs: lot of research papers on this, important to start normative work.

**Decision:** The document was **revised to S3-192994**.

**S3-192994 WID of 5GFBS**

*Type: WID new For: Approval  
 Source: Apple*

(Replaces S3-192636)

**Decision:** The document was **noted**.

**S3-192661 WID for LTE normative work for UPIP**

*Type: WID new For: Agreement  
 Source: Vodafone España SA*

**Discussion:**

Vodafone: the SID presented for this meeting has too many changes to have the WID as it is now. Qualcomm suggested to note it since it was better to wait for the study. Vodafone commented that they would bring it for the next meeting.

**Decision:** The document was **noted**.

**S3-192828 New WID on security of the enhancement to the 5GC location services**

*Type: WID new For: Agreement  
 Source: CATT*

**Discussion:**

Vodafone: I would like to see these features as optional for the supervision of these measurements. This may have privacy issues.

AT&T commented that this was not the case of a third party making use of this data. This was not a concern for this group and that would take privacy too far. Rules and regulations of a specific country were not part of this study.

Colin (BT): it needs to be optional because the results can be corrupted or forged.

Alf(NTT-Docomo: add privacy as an objective.

Christine (Ericsson): make clear that if data is collected, that data should not be sent. Nokia replied that the UE would collect only if configured for that. It would be a deployment choice, optional.

The Chair asked if there were any objections to this WID and Vodafone reiterated his comment on the privacy issue and the optionality.

Marcus (Huawei): if they say in SA2 that this feature is optional, our work in here would be optional as well.

Alex agreed with Vodafone, given the controversy of the topic. They didn’t mind these capabilities but not having any restrictions wouldn't be very clever.

This was taken offline.

**Decision:** The document was **revised to S3-193056**.

**S3-193056 New WID on security of the enhancement to the 5GC location services**

*Type: WID new For: Agreement  
 Source: CATT*

(Replaces S3-192828)

**Decision:** The document was **agreed**.

**S3-192830 New WID on security aspect of network analytic services**

*Type: WID new For: Approval  
 Source: China Mobile M2M Company Ltd.*

**Discussion:**

Vodafone: normally we should have a discussion paper presenting this or a previous study item. They saw no rush for not having a discussion paper first.

Nokia: a study is not needed for this. It's about security between two network functions defined in TS 33.501.

Ericsson: agree with being an usual network domain security.

China Mobile: no study item needed, just small requirements and in that case we wouldn't be able to reach the release 16 deadline and we would have no security solution in this release for this issue.

It was clarified that the WID could be brought to plenary together with the necessary CRs in one go in case there were timing problems.

The Chair asked if any offline discussion would help. Vodafone still found problematic not being able to discuss with a paper first.

**Decision:** The document was **noted**.

**S3-192859 New WID on Authentication and Key Management for Applications based on 3GPP credential in 5G**

*Type: WID new For: Approval  
 Source: China Mobile*

**Discussion:**

Orange: why involving SA2?

China Mobile: for architecture issues. This was taken offline.

**Decision:** The document was **revised to S3-193178**.

**S3-193178 New WID on Authentication and Key Management for Applications based on 3GPP credential in 5G**

*Type: WID new For: Approval  
 Source: China Mobile*

(Replaces S3-192859)

**Decision:** The document was **agreed**.

**S3-192883 Work item on integrating GBA to 5GC**

*Type: WID new For: Approval  
 Source: Ericsson, Vodafone*

**Discussion:**

Qualcomm: this is a good idea and should be kept separate from the AKMA work item.

We don’t know about the impact on the ME and UICC.

Vodafone: this is changing GBA specs and the AKMA WID is changing TS 33.501, so that's why they have to be separate.

Huawei: no study item for this, and there are GBA functions that need consideration when treated in a service based architecture. We would need to consult SA2 about this. Ericsson replied that SA2 had looked at this and it was concluded that a Service Based Interface was needed.

Vodafone clarified that this was coming from the results from the AKMA study.

Nokia commented that GBA was a standalone specification in LTE. Martin (AT&T) replied that GBA would not be the same case in 5G.

Qualcomm argued that the deadlines were too tight and that the WID should enter into the release 17 timeline.

**Decision:** The document was **revised to S3-193200**.

**S3-193200 Work item on integrating GBA to 5GC**

*Type: WID new For: Approval  
 Source: Ericsson, Vodafone*

(Replaces S3-192883)

**Decision:** The document was **agreed**.

**S3-192907 New WID on Security aspects of SEAL**

*Type: WID new For: Approval  
 Source: Samsung*

**Discussion:**

Nokia: is this part of Release 16?

Samsung: it's part of Release 16 in SA6 and CT.

Vodafone: no discussion documents to support this. Why is it important to agree on this WID now if we have no documents discussing this?

AT&T supported this WID and commented that the work was complete in SA6 and there was a request to do the security part.

Colin (BT): representatives of vertical industries in SA6? It's hard to understand their requirements if they don’t attend 3GPP meetings. We would need their input. Samsung replied that they were there and had requirements on the security aspects.

Vodafone: where is the security evaluation to be done in SA3?

Nokia: ideally we would need an LS from SA6 at least to make an assessment on the security implications.

Qualcomm: objectives are too broad.

This had to be taken offline.

**Decision:** The document was **revised to S3-193071**.

**S3-193071 New WID on Security aspects of SEAL**

*Type: WID new For: Agreement  
 Source: Samsung*

(Replaces S3-192907)

**Decision:** The document was **agreed**.

**S3-192909 New WID on Security for NR Integrated Access and Backhaul**

*Type: WID new For: (not specified)  
 Source: Samsung*

**Decision:** The document was **revised to S3-193073**.

**S3-193073 New WID on Security for NR Integrated Access and Backhaul**

*Type: WID new For: -  
 Source: Samsung*

(Replaces S3-192909)

**Decision:** The document was **agreed**.

**S3-193072 Analysis of SEAL**

*Type: discussion For: discussion  
 Source: Samsung*

**Decision:** The document was **noted**.

## 8 Studies

### 8.1 Study on Security Aspects of the 5G Service Based Architecture (FS\_SBA-Sec) (Rel-15)

**S3-192609 eSBA: pCR to update Evaluation of Solution #16**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

pCR to update Evaluation of Solution #16

**Decision:** The document was **revised to S3-193064**.

**S3-193064 eSBA: pCR to update Evaluation of Solution #16**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192609)

**Decision:** The document was **approved**.

**S3-192606 eSBA: pCR to update Solution #21**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Update Solution 21 in TR 33.855

**Discussion:**

Huawei: no need for stateful for this scenario.

**Decision:** The document was **approved**.

**S3-192607 eSBA: pCR to update Evaluation of Solution #21**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

pCR to update Evaluation of Solution #21

**Decision:** The document was **approved**.

**S3-192802 Update of Solution #23 (Token-based authorization for Scenario D using stateless SeCoP)**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Discussion:**

Huawei: make sure that this is aligned with release 15.

Nokia: in deployments where there are hierarchical NRFs you have to rely on an implicit trust model. In those scenarios the trust model relies on delegated trust.

**Decision:** The document was **approved**.

**S3-192804 Evaluation for Solution #23 (Token-based authorization for Scenario D using stateless SeCoP)**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193066**.

**S3-193066 Evaluation for Solution #23 (Token-based authorization for Scenario D using stateless SeCoP)**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

(Replaces S3-192804)

**Decision:** The document was **approved**.

**S3-192803 Update of Solution #24 (Token-based authorization for Scenario C using stateless SeCoP)**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193067**.

**S3-193067 Update of Solution #24 (Token-based authorization for Scenario C using stateless SeCoP)**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

(Replaces S3-192803)

**Decision:** The document was **approved**.

**S3-192805 Evaluation for Solution #24 (Token-based authorization for Scenario C using stateless SeCoP)**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193068**.

**S3-193068 Evaluation for Solution #24 (Token-based authorization for Scenario C using stateless SeCoP)**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

(Replaces S3-192805)

**Decision:** The document was **approved**.

**S3-192694 eSBA: new solution for NF service consumer verification during service access authorization in indirect communication scenario**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Huawei, Hisilicon*

**Discussion:**

NTT-Docomo: the solution doesn't have any value for scenarios where there are multiple SeCoPs. Nokia supported this.

Ericsson: list all the disadvantages in the evaluation, otherwise we won't agree on this. An editor's note was added to address the scenarios where the solution didn’t work.

**Decision:** The document was **revised to S3-193069**.

**S3-193069 eSBA: new solution for NF service consumer verification during service access authorization in indirect communication scenario**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192694)

**Decision:** The document was **approved**.

**S3-192612 eSBA: Add conclusion on KI #22**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Add conclusion on KI #22

**Discussion:**

Ericsson and Nokia disagreed with the conclusions for scenario D. Conflict with the following contribution.

**Decision:** The document was **merged**.

**S3-192806 Conclusion of Key Issue #22 (Authorization of NF service access in indirect communication)**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193070**.

**S3-193070 Conclusion of Key Issue #22 (Authorization of NF service access in indirect communication)**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson,Nokia*

(Replaces S3-192806)

**Decision:** The document was **approved**.

**S3-192815 New solution: Authorization between Network Functions in Scenario D**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

**S3-192614 eSBA: Add conclusion on KI #23**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Add conclusion on KI #23

**Decision:** The document was **revised to S3-193174**.

**S3-193174 eSBA: Add conclusion on KI #23**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bel,Ericssonl*

(Replaces S3-192614)

**Decision:** The document was **approved**.

**S3-192816 Conclusion of Key Issue #23: NF to NF authentication and authorization in Indirect communication**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **merged**.

**S3-192807 New solution: Telescopic FQDN for the SeCoP**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Discussion:**

It was agreed to send an editor's note about the stage 3 solution for routing. The evaluation was also removed.

**Decision:** The document was **revised to S3-193075**.

**S3-193075 New solution: Telescopic FQDN for the SeCoP**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

(Replaces S3-192807)

**Decision:** The document was **approved**.

**S3-192610 eSBA: Add conclusion on KI #20**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Add conclusion on KI #20

**Decision:** The document was **revised to S3-193077**.

**S3-193077 eSBA: Add conclusion on KI #20**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192610)

**Decision:** The document was **approved**.

**S3-192813 Conclusion of Key Issue #20: Protection of SeCoP interfaces**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **noted**.

**S3-192814 Conclusion of Key Issue #21: Secure message transport via the SeCoP**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193078**.

**S3-193078 Conclusion of Key Issue #21: Secure message transport via the SeCoP**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

(Replaces S3-192814)

**Decision:** The document was **approved**.

**S3-192688 Dealing with the EN of solution #19 in TR33.855**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-192689 New solution for authorization within a NF Set in the roaming scenario**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-192808 New solution: Token-based authorization for NF Sets / NF Service Sets by existing methods**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193079**.

**S3-193079 New solution: Token-based authorization for NF Sets / NF Service Sets by existing methods**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

(Replaces S3-192808)

**Decision:** The document was **approved**.

**S3-192628 eSBA: Add conclusion on KI #24**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Add conclusion on KI #24

**Discussion:**

It was concluded that info from SA2 was needed, hence no conclusion was to be obtained during the present meeting.

**Decision:** The document was **noted**.

**S3-192809 Conclusion of Key Issue #24 (Service access authorization within a NF Set or a NF Service Set)**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **noted**.

**S3-192811 Update of Key issue #26: Protection of N9 interface**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Discussion:**

Juniper,China Mobile supported this. There was no clear requirement.

**Decision:** The document was **approved**.

**S3-192860 Resolving EN in 33855 6.18 N9 NDS/IP**

*Type: pCR For: Agreement  
 33.855 v1.6.0  
 Source: Juniper Networks*

**Decision:** The document was **noted**.

**S3-192611 eSBA: Add conclusion on KI #26**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Add conclusion on KI #26

**Discussion:**

China Mobile: no difference between this and the current requirement in 33.501.

Nokia: we need to make changes to cover this interface. China Mobile disagreed and added that it was already covered.

Juniper: it’s written somewhere else that we need to rewrite the requirement.

Ericsson: better clarify that this applies to the roaming interface.

**Decision:** The document was **revised to S3-193081**.

**S3-193081 eSBA: Add conclusion on KI #26**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell, Nokia*

(Replaces S3-192611)

**Decision:** The document was **approved**.

**S3-192810 Conclusion of Key Issue #26: Protection of N9 interface**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **merged**.

**S3-192818 UP Gateway deployments**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Discussion:**

Huawei: we need feedback from SA2 for the deployment options and see if there are any security concerns in them.

Deustche Telekom supported querying SA2. China Mobile as well.

Revised to add some editor's notes.

**Decision:** The document was **revised to S3-193082**.

**S3-193082 UP Gateway deployments**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

(Replaces S3-192818)

**Decision:** The document was **approved**.

**S3-192629 eSBA: Add conclusion on KI #27**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Add conclusion on KI #27

**Discussion:**

China Mobile: too early for this conclusion. We need to check with sA2.

Alex (BT): SA asked to finish this in release 15 and it's delaying deployments.

Christine (Ericsson) suggested to add a bullet list in the conclusion. This was revised to introduce these changes.

Alf (NTT-Docomo): conclude now and send an LS to SA2. This is not normative.

China Mobile: I don’t think this solution is solving the problem.

Deutsche Telekom: We need a solution and we have several of them available. It's not for SA3 to decide alone and we can get feedback from SA2 on the available solutions.

A number was given for a possible LS to SA2 and this was taken offline.

**Decision:** The document was **revised to S3-193095**.

**S3-193095 eSBA: Add conclusion on KI #27**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192629)

**Decision:** The document was **approved**.

**S3-192687 Update of solution #15 in TR 33.855**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: the evaluation needs to show the disadvantages of the solution as well.

This was taken offline.

**Decision:** The document was **revised to S3-193097**.

**S3-193097 Update of solution #15 in TR 33.855**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192687)

**Decision:** The document was **approved**.

**S3-192812 Conclusion of Key Issue #28: Service access authorization in the delegated "Subscribe-Notify" scenarios**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Discussion:**

Huawei and Nokia didn’t agree with the conclusion.

**Decision:** The document was **noted**.

**S3-192608 eSBA: pCR to update Evaluation of Solution #26**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

pCR to update Evaluation of Solution #26

**Decision:** The document was **approved**.

**S3-192817 New Solution: resource level authorization using access tokens**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193098**.

**S3-193098 New Solution: resource level authorization using access tokens**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Ericsson*

(Replaces S3-192817)

**Decision:** The document was **approved**.

**S3-192613 eSBA: Add conclusion on KI #29**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Add conclusion on KI #29

**Decision:** The document was **revised to S3-193099**.

**S3-193099 eSBA: Add conclusion on KI #29**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192613)

**Decision:** The document was **approved**.

**S3-192693 Resolving the ENs in Solution #25**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: benefit to the existing solution should be clarified in the evaluation.

**Decision:** The document was **revised to S3-193100**.

**S3-193100 Resolving the ENs in Solution #25**

*Type: pCR For: Approval  
 33.855 v1.6.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192693)

**Decision:** The document was **approved**.

**S3-192531 Resolving EN in 33855 6.18 N9 NDS/IP**

*Type: pCR For: Agreement  
 33.855 v1.6.0  
 Source: Juniper Networks*

**Decision:** The document was **withdrawn**.

**S3-193065 Draft TR 33.855**

*Type: draft TR For: Approval  
 33.855 v1.7.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

**S3-193076 LS to CT4 on ESPA using indirect communication**

*Type: LS out For: Approval  
 to CT4  
 Source: NTT-Docomo*

**Decision:** The document was **approved**.

**S3-193080 LS to SA2 on ESPA NF sets**

*Type: LS out For: Approval  
 to SA2  
 Source: NTT-Docomo*

**Decision:** The document was **approved**.

**S3-193096 LS to SA2 on UP gateway function**

*Type: LS out For: Approval  
 to SA2  
 Source: Deutsche Telekom*

**Decision:** The document was **approved**.

### 8.2 Security aspects of single radio voice continuity from 5G to UTRAN (FS\_5G\_UTRAN\_SEC) (Rel-16)

### 8.3 Study on authentication and key management for applications based on 3GPP credential in 5G IoT (FS\_AKMA)(Rel-16)

**S3-192753 Implicite AKMA authenticaiton procedure**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-192884 Evaluation of solution 13**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

**S3-192885 Solution #15 updates including evaluation update**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: Ericsson*

**Discussion:**

Vodafone: nowhere it's said whether the solution is good or bad. No advantages or disadvantages. Added an editor's note for this.

**Decision:** The document was **revised to S3-193169**.

**S3-193169 Solution #15 updates including evaluation update**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: Ericsson*

(Replaces S3-192885)

**Decision:** The document was **approved**.

**S3-192675 Discussion on the conclusion of AKMA architecture and authentication procedures**

*Type: discussion For: Endorsement  
 33.835 v..  
 Source: China Mobile, Nokia, Nokia Shanghai Bell*

**Decision:** The document was **noted**.

**S3-192677 Conclusion on AKMA architecture and authentication procedure**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: China Mobile, Nokia, Nokia Shanghai Bell*

**Discussion:**

Competing solution with 886.

The Chair asked for a show of hands:

- Reusing KAUSF based solution: KPN, Orange, Samsung, Qualcomm, Nokia, China Mobile,Huawei,BT (tdoc 677) --> 9 companies.

- Not reusing KAUSF (tdoc 886): Vodafone, Ericsson, CableLabs. --> 3

It was agreed to remove solution 2.

Huawei had a solution overlapping with this contribution. Qualcomm proposed to focus on this for the next meeting.

**Decision:** The document was **revised to S3-193170**.

**S3-193170 Conclusion on AKMA architecture and authentication procedure**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: China Mobile, Nokia, Nokia Shanghai Bell*

(Replaces S3-192677)

**Decision:** The document was **approved**.

**S3-192886 Conclusion for AKMA architecture and authentication**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: Ericsson*

**Decision:** The document was **noted**.

**S3-192564 Resolving Editor’s Notes and adding conclusion to solution #20**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: NEC Corporation*

**Decision:** The document was **approved**.

**S3-192565 conclusion for KI #9**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: NEC Corporation*

**Decision:** The document was **noted**.

**S3-192566 conclusion for KI #15**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: NEC Corporation*

**Discussion:**

Qualcomm and Nokia didn’t agree with the text.

**Decision:** The document was **noted**.

**S3-192788 Resolve Editor's notes in Solution for Key freshness in AKMA**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: why using RAND? This was removed.

**Decision:** The document was **revised to S3-193171**.

**S3-193171 Resolve Editor's notes in Solution for Key freshness in AKMA**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192788)

**Decision:** The document was **approved**.

**S3-192521 Corrections for TR 33.835**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution proposes corrections for TR 33.835-0.5.0 aiming to improve readability of the TR.

**Decision:** The document was **approved**.

**S3-192532 New KI for TR 33.835 - roaming environment**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution proposes a new Key Issue for TR 33.835-0.5.0 focusing on authentication and key management for applications based on 3GPP credential in a roaming environment.

**Discussion:**

Ericsson: Anchor is in home network; is the roaming meaningful here? Also, remove second requirement.

Qualcomm: we just concluded the architecture we are going to use, and this is not the architecture we agreed to conclude. I question the whole key issue but we can look at this in the normative work.

Colin (BT) didn’t find it necessary. There is still home control.

Orange was happy with the requirements and they could go to general requirements clause so they didn’t depend on the solution. They were useful for the normative work.

It was commented that the requirements still needed work.

**Decision:** The document was **noted**.

**S3-193172 New KI for TR 33.835 - roaming environment**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: InterDigital Communications*

**Decision:** The document was **withdrawn**.

**S3-192537 New KI for TR 33.835 – environments where a UICC, or a SIM card, is not available to subscribers**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution proposes a new Key Issue for TR 33.835-0.5.0 focusing on authentication and key management for environments where a UICC, or a SIM card, is not available to subscribers.

**Discussion:**

Orange, Vodafone objected to this contribution.

Nokia supported it.

**Decision:** The document was **noted**.

**S3-192539 New KI for TR 33.835 – browser environment**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution proposes a new Key Issue for TR 33.835-0.5.0 focusing on authentication and key management for applications based on 3GPP credentials in environments involving an HTTPS browser deployed on the UE.

**Discussion:**

Qualcomm: AKMA is designed to use with any application, we don’t need to specify the browser in particular.

**Decision:** The document was **noted**.

**S3-192691 Resolving the EN in AKMA push, and adding the evaluation**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-192853 Conclusion on key issue #2**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: China Mobile*

**Decision:** The document was **not treated**.

**S3-192854 Evaluation of solution #6**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: China Mobile M2M Company Ltd.*

**Decision:** The document was **not treated**.

**S3-192855 Evaluation of solution#1**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: China Mobile M2M Company Ltd.*

**Decision:** The document was **not treated**.

**S3-192856 Evaluations of solution #7- #12**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: China Mobile*

**Decision:** The document was **not treated**.

**S3-192881 New solution: Integrating GBA to 5GC**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: Ericsson, Vodafone*

**Decision:** The document was **not treated**.

**S3-192882 New conclusions for GBA in 5GC**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: Ericsson, Vodafone*

**Decision:** The document was **not treated**.

**S3-192664 Discussion on the conclusion of AKMA architecture and authentication procedures**

*Type: discussion For: Endorsement  
 33.835 v..  
 Source: China Mobile M2M Company Ltd.*

**Decision:** The document was **withdrawn**.

**S3-192674 Conclusion on AKMA architecture and authentication procedure**

*Type: pCR For: Approval  
 33.835 v0.5.0  
 Source: China Mobile M2M Company Ltd.*

**Decision:** The document was **withdrawn**.

**S3-193168 Draft TR 33.835**

*Type: draft TR For: Approval  
 33.835 v0.6.0  
 Source: China Mobile*

**Decision:** The document was **approved**.

**S3-193177 Cover sheet for TR 33.835 information**

*Type: TS or TR cover For: Approval  
 33.835 v..  
 Source: China Mobile*

**Decision:** The document was **approved**.

### 8.4 Study on evolution of Cellular IoT security for the 5G System (FS\_CIoT\_sec\_5G) (Rel-16)

**S3-192957 Manufacture Usage Description Discussion**

*Type: discussion For: Discussion  
 33.861 v..  
 Source: NIST, ATT, SPRINT, CABLE LABS, CISCO*

**Abstract:**

Short presentation to introduce the MUD protocol

**Decision:** The document was **noted**.

**S3-192916 New KI: Botnet threats caused from improper CIOT device usage**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: NIST, ATT, SPRINT, CABLE LABS, CISCO*

**Abstract:**

New KI related to Botnet threats caused from improper CIOT device usage

**Discussion:**

Huawei: no need for the key issue and the requirement is too solution-specific.

This is conflicting/overlapping with key issue 4.

Colin (BT): how are devices identified?

CableLabs: this is additional info on the device. Identification is not an issue here.

Qualcomm: this is not specific to 3GPP access, not sure if this is in scope. We need something to establish trust between device and capabilities otherwise it can be compromised.

**Decision:** The document was **revised to S3-193101**.

**S3-193101 New KI: Botnet threats caused from improper CIOT device usage**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: NIST, ATT, SPRINT, CABLE LABS, CISCO*

(Replaces S3-192916)

**Decision:** The document was **approved**.

**S3-192769 Address EN in key issue 13 and solution 20**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

**Discussion:**

MCC commented that the change still had the same meaning as an editor's note.

Ericsson commented that the first editor's note should stay in order to follow SA2's work.

NTT-Docomo also wanted to keep it since it was an outstanding issue that needed to be addressed.

**Decision:** The document was **revised to S3-193102**.

**S3-193102 Address EN in key issue 13 and solution 20**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192769)

**Discussion:**

Removal of the last editor's note only.

**Decision:** The document was **approved**.

**S3-192895 Evaluation to Sol#4**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Ericsson, Intel*

**Discussion:**

Qualcomm suggested some rewording in the last paragraph.

**Decision:** The document was **revised to S3-193104**.

**S3-193104 Evaluation to Sol#4**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Ericsson, Intel*

(Replaces S3-192895)

**Decision:** The document was **approved**.

**S3-192967 Clarification in Solution 12**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192747)

**Decision:** The document was **approved**.

**S3-192538 Proposal for editor's note in FS\_CIoT\_sec\_5G solution #15**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Philips International B.V.*

**Abstract:**

In TS 33.861 [1], solution #15 contains an Editor's Note. This pCR proposes a solution to this note.

**Decision:** The document was **approved**.

**S3-192773 Address EN in solution 19**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: add statement in the efficiency part about the solution based on this.

**Decision:** The document was **revised to S3-193105**.

**S3-193105 Address EN in solution 19**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192773)

**Decision:** The document was **approved**.

**S3-192939 Evaluation of Solution 20: RRC Reestablishment in RLF**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Qualcomm Incorporated*

**Decision:** The document was **approved**.

**S3-192771 Address EN in solution 21**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-192960 New Solution for botnet threats caused by improper CIOT device usage**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: NIST, ATT, Sprint, Cable Labs, Cisco*

(Replaces S3-192948)

**Abstract:**

Solutions to address key issue related botnet attacks caused by improper CIOT device usage

**Decision:** The document was **noted**.

**S3-192789 Mitigate DDoS Attack on RAN based on RAN coordination**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: editor's note on synchronising the list in RAN.

**Decision:** The document was **revised to S3-193106**.

**S3-193106 Mitigate DDoS Attack on RAN based on RAN coordination**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192789)

**Decision:** The document was **approved**.

**S3-192897 CIOT: New solution for UP IP in PDCP to protect UL EDT data in Msg3**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Ericsson, Qualcomm Incorporated,Intel*

**Decision:** The document was **approved**.

**S3-192898 CIOT: New solution for protection of NAS Redirection message**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Ericsson*

**Discussion:**

Huawei: editor's note on signalling overhead.

**Decision:** The document was **revised to S3-193107**.

**S3-193107 CIOT: New solution for protection of NAS Redirection message**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Ericsson*

(Replaces S3-192898)

**Decision:** The document was **approved**.

**S3-192651 Proposal for Key Issue#1 Conclusion**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Philips International B.V.*

**Abstract:**

In TS 33.861 [1], KI#1 has no conclusion yet in clause 7. This pCR proposes a conclusion to this key issue.

**Discussion:**

Ericsson: Change in PDCP makes it complicated. We don’t support this.

**Decision:** The document was **noted**.

**S3-192896 Conclusion on KI#2**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Ericsson, Qualcomm Incorporated, Intel*

**Discussion:**

MCC commented that the text read like an editor's note, but it was fine as long as this was updated once the study in 33.853 was concluded as the text said.

**Decision:** The document was **approved**.

**S3-192774 Discussion on Mitigation of DDoS attack**

*Type: discussion For: Endorsement  
 33.861 v-  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-192518 Conclusion for KI#4**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: KPN, Huawei, Hisilicon*

**Abstract:**

This document proposes a solution of KI#4, Signalling overload due to Malicious Applications on the UE, based on Solutions #6, #12, #17 and #19.

**Decision:** The document was **noted**.

**S3-192894 Conclusion on KI#4**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Ericsson, Qualcomm Incorporated*

**Decision:** The document was **noted**.

**S3-192893 Conclusion on KI#5**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Ericsson, Qualcomm Incorporated*

**Discussion:**

Nokia supported this conclusion.

**Decision:** The document was **noted**.

**S3-192790 conclusion on KI#5**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-192772 Conclusion for Key Issue #11**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson preferred to wait for the next meeting since they had a competing solution.

**Decision:** The document was **noted**.

**S3-192770 Conclusion for Key Issue #13**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm: remove the second paragraph.

**Decision:** The document was **revised to S3-193108**.

**S3-193108 Conclusion for Key Issue #13**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192770)

**Decision:** The document was **approved**.

**S3-193103 Draft TR 33.861**

*Type: draft TR For: Approval  
 33.861 v1.3.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

### 8.5 Study on the security of the Wireless and Wireline Convergence for the 5G system architecture (FS\_5WWC\_SEC) (Rel-16)

**S3-192604 Reply LS on Wireline Access Security Requirements**

*Type: LS out For: Approval  
 to BBF, cc SA2  
 Source: CableLabs*

**Discussion:**

Ericsson: there is a typo in BBF's LS, as they refer to security requirements in 23.501.

CableLabs clarified that they were an organization with several operators as members.

Colin (BT): we have to add requirements ourselves for this.

**Decision:** The document was **revised to S3-192981**.

**S3-192981 Reply LS on Wireline Access Security Requirements**

*Type: LS out For: Approval  
 to BBF, cc SA2  
 Source: CableLabs*

(Replaces S3-192604)

**Decision:** The document was **approved**.

**S3-192754 Address two Editor’s Note of solution 4**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Telecom Italia: Is W-5GAN something other than a network element? Where is the calculation described performed?

Huawei: We agreed last meeting that W-5GAN will construct the SUCI. It is defined in SA2 as a network element.

Ericsson: this is not exactly the agreement we had. Just remove the editor's note and don’t add new text since it is covered somewhere else.

**Decision:** The document was **revised to S3-193109**.

**S3-193109 Address two Editor’s Note of solution 4**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192754)

**Decision:** The document was **approved**.

**S3-192755 Address two Editor’s Note of solution 6**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-192796 Removal of EN in Solution #7**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

**S3-192799 Editorial changes to Solution #7**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

**S3-192800 Evaluation of Solution #7**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

**S3-193111 Evaluation of Solution #7**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Ericsson*

**Decision:** The document was **withdrawn**.

**S3-192756 Address an Editor’s Note and add evaluation for solution 7**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: you need keys and integrity protection.

**Decision:** The document was **noted**.

**S3-192757 Add evaluation for solution 8**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: DTLS is also used.

Huawei: it's part of the NDS/IP in the same clause as 33.501.

Nokia: what is the evaluation if it is only stating what's in the solution?

Huawei: this wording is used everywhere else in the TR.

**Decision:** The document was **approved**.

**S3-192795 Conclusion for KI#7 and KI#8**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

**S3-192758 Add conclusion for KI#2**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-193112**.

**S3-193112 Add conclusion for KI#2**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192758)

**Discussion:**

Only first change is kept.

**Decision:** The document was **approved**.

**S3-192798 Conclusion on KI#9**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

**S3-192797 Conclusion on KI#15**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193192**.

**S3-193192 Conclusion on KI#15**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Ericsson*

(Replaces S3-192797)

**Decision:** The document was **approved**.

**S3-192759 completing TR 33807**

*Type: pCR For: Approval  
 33.807 v0.6.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-193110 Draft TR 33.807**

*Type: draft TR For: Approval  
 33.807 v0.7.0  
 Source: Huawei*

**Decision:** The document was **approved**.

**S3-193179 Cover sheet TR 33.807 for approval**

*Type: TS or TR cover For: Approval  
 33.807 v..  
 Source: Huawei*

**Decision:** The document was **approved**.

### 8.6 Study on Security Aspects of PARLOS (FS\_PARLOS\_Sec) (Rel-16)

**S3-192583 Addressing EN in PARLOS Evaluation clause 7.2.3**

*Type: pCR For: Approval  
 33.815 v0.6.0  
 Source: Nokia, Nokia Shangahi Bell*

**Decision:** The document was **revised to S3-193118**.

**S3-193118 Addressing EN in PARLOS Evaluation clause 7.2.3**

*Type: pCR For: Approval  
 33.815 v0.6.0  
 Source: Nokia, Nokia Shangahi Bell*

(Replaces S3-192583)

**Discussion:**

Changes in the evaluation clause were kept.

The solution changes are merged in 114 as suggested by Qualcomm.

**Decision:** The document was **approved**.

**S3-192747 Clarification in Solution 12**

*Type: pCR For: Approval  
 33.861 v1.2.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-192967**.

**S3-192913 P-CR: Editorial clean-up of editor's notes**

*Type: pCR For: Agreement  
 33.815 v0.6.0  
 Source: Sprint Corporation*

**Decision:** The document was **approved**.

**S3-192943 A solution to providing some network authorisation in PARLOS**

*Type: pCR For: Approval  
 33.815 v0.6.0  
 Source: Qualcomm Incorporated*

**Discussion:**

Vodafone: we need some kind of warning to the user about the service.

NTT-Docomo: we can warn the customers by other means (like recommending them to remove the USIM).

**Decision:** The document was **revised to S3-193114**.

**S3-193114 A solution to providing some network authorisation in PARLOS**

*Type: pCR For: Approval  
 33.815 v0.6.0  
 Source: Qualcomm Incorporated*

(Replaces S3-192943)

**Decision:** The document was **approved**.

**S3-192944 Proposed conclusion on providing some network authorisation in PARLOS**

*Type: pCR For: Approval  
 33.815 v0.6.0  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-193116**.

**S3-193116 Proposed conclusion on providing some network authorisation in PARLOS**

*Type: pCR For: Approval  
 33.815 v0.6.0  
 Source: Qualcomm Incorporated,Spring*

(Replaces S3-192944)

**Decision:** The document was **approved**.

**S3-192945 Security aspects of RLOS**

*Type: other For: Discussion  
 Source: Qualcomm Incorporated*

**Decision:** The document was **noted**.

**S3-192962 P-CR: Proposed conclusion for PARLOS**

*Type: pCR For: Agreement  
 33.815 v0.6.0  
 Source: Sprint Corporation*

**Decision:** The document was **merged**.

**S3-192964 P-CR: Proposed recommendations for PARLOS**

*Type: pCR For: Agreement  
 33.815 v0.6.0  
 Source: Sprint Corporation*

**Decision:** The document was **merged**.

**S3-193117 P-CR: Proposed recommendations for PARLOS**

*Type: pCR For: Agreement  
 33.815 v0.6.0  
 Source: Sprint Corporation*

**Decision:** The document was **withdrawn**.

**S3-192965 pCR to 33.815 clarifying requirements on Parlos**

*Type: pCR For: Approval  
 33.815 v0.6.0  
 Source: DOCOMO Communications Lab.*

**Discussion:**

Sprint: leave it to the regulator to block it or not.

NTT-Docomo: we cannot leave it to regulators from the IMSI side.

Change It so you don’t mention a particular country.

**Decision:** The document was **revised to S3-193115**.

**S3-193115 pCR to 33.815 clarifying requirements on Parlos**

*Type: pCR For: Approval  
 33.815 v0.6.0  
 Source: DOCOMO Communications Lab.*

(Replaces S3-192965)

**Decision:** The document was **approved**.

**S3-192966 Cover sheet for PARLOS 33.815**

*Type: TS or TR cover For: Agreement  
 33.815 v0.6.0  
 Source: Sprint Corporation*

**Decision:** The document was **approved**.

**S3-193113 Draft TR 33.815**

*Type: draft TR For: Approval  
 33.815 v0.7.0  
 Source: Sprint*

**Decision:** The document was **approved**.

### 8.7 Study on 5G security enhancement against false base stations (FS\_5GFBS) (Rel-16)

**S3-192778 Way forward for TR 33.809**

*Type: discussion For: Discussion  
 33.809 v..  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-192863 Way forward - KI#1 Proposal#1 UE caps**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Samsung, Apple*

**Discussion:**

It was clarified that no additional normative work is needed since this had been taken care of in a CR for TS 33.501. This was introduced in the conclusion.

**Decision:** The document was **revised to S3-193173**.

**S3-193173 Way forward - KI#1 Proposal#1 UE caps**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Samsung, Apple*

(Replaces S3-192863)

**Decision:** The document was **approved**.

**S3-192734 Address EN in solution #1**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192642 Protection of UeapabilityInformation**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Apple*

**Decision:** The document was **not treated**.

**S3-192780 Address EN in solution 16**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-192864 Way forward - KI#1 Proposal#2 RRC reject**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Apple*

**Discussion:**

Samsung preferred to keep this open until the next meeting. They didn't agree with the evaluation. Qualcomm: put the evaluation in the solution, it's not part of the text now.

Qualcomm: the point is to add the reason why we got to this conclusion with a proper evaluation, especially for external readers who may come with additional papers in the future. They were OK with the conclusion but just wanted to add some more text into the conclusion part from the analysis.

Huawei didn’t agree with this contribution.

**Decision:** The document was **noted**.

**S3-192779 Discussion on Conclusion for Protection of RRC Reject message**

*Type: discussion For: Decision  
 33.809 v..  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-192781 Conclusion for Key Issue #1 for RRC Reject**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-192782 LS to RAN2 on Protection of RRC Reject Message**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-192949 Resolving EN on New and Last serving gNB interactions**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Samsung*

**Discussion:**

Apple: we need more time to evaluate the solution.

**Decision:** The document was **noted**.

**S3-192865 Way forward - KI#1 Proposal#3 RRC Resume**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Apple*

**Discussion:**

Qualcomm: we don’t have a solution for this way forward. I agree with this conclusion, but the solution was removed. Orange agreed.

**Decision:** The document was **noted**.

**S3-192783 Update on Protection of RRC Resume Request message**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Apple didn't agree with the solution.

**Decision:** The document was **noted**.

**S3-192784 Conclusion for Key Issue #1 for RRC Resume Request Protection**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-192950 Solution for Resumecause protection**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Samsung*

**Decision:** The document was **not treated**.

**S3-192785 Solution for Protection of NAS Reject Message**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson and Qualcomm didn't agree: NAS messages from the serving network is a bit weird.

**Decision:** The document was **noted**.

**S3-192786 Conclusion for Key Issue #1 for NAS Reject**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-192637 Conclusion of key issue#2**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Apple*

**Discussion:**

Competing with 791 and 866. Qualcomm asked to have a better description of the solutions in order to decide better, not a rushed conclusion should be done. Orange: specially if the solution chosen has security issues.

The Chair asked for a show of hands for the support of this document:

CableLabs, Apple,BT,Ericsson,Philips.

Then the Chair asked for another show of hands:

No support of concluding now key issue #2: Orange, Qualcomm, Huawei. NTT-Docomo,Nokia, Vodafone, Deutsche Telekom.

Who wants to conclude key issue #2: ZTE, Samsung,Ericsson, Apple, Intel.

**Decision:** The document was **noted**.

**S3-192791 conclusion on KI#2**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-192866 Way forward - KI#2 Proposal#4 SI protection**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, AT&T, NIST, CATT, China Unicom, Apple, Samsung*

**Discussion:**

Qualcomm: we cannot reach a conclusion now, it's premature. We like the Huawei approach, but this needs further analysis.

Orange: in this case we have several solutions with advantages and disadvantages, it’s not like the AKMA situation.

**Decision:** The document was **noted**.

**S3-193140 Way forward - KI#2 Proposal#4 SI protection**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, AT&T, NIST, CATT, China Unicom, Apple, Samsung*

**Decision:** The document was **withdrawn**.

**S3-192951 Updates to Solution#7 on obtaining accurate clock information**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Samsung*

**Decision:** The document was **not treated**.

**S3-192952 Deletion of EN on Location update reject in Solution#7**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Samsung*

**Decision:** The document was **not treated**.

**S3-192585 FBS add text to evaluation clause 6.7.3**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**S3-192638 Update for Solution#7**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Apple*

**Decision:** The document was **not treated**.

**S3-192620 Assessment and evaluation of solution #9**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**S3-192643 Update of Solution#11**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Apple*

**Decision:** The document was **not treated**.

**S3-192639 Evaluation for solution#14**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Apple*

**Decision:** The document was **not treated**.

**S3-192938 Evaluation of the shared key based MIB/SIB protection**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Qualcomm Incorporated*

(Replaces S3-191922)

**Decision:** The document was **not treated**.

**S3-192968 The solution to protect MIB/SIB information**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192748)

**Decision:** The document was **not treated**.

**S3-192936 Alternative shared key based MIB/SIB protection**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not treated**.

**S3-192867 Way forward - KI#3 Proposal#5 False RBS detection**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics*

**Discussion:**

NTT-Docomo: not a conclusion Just send the LS and then write the conclusion.

Qualcomm: we already have an informative annex in 33.501. What's the value of this here without an evaluation? UE-based approaches, network-based approaches in the market already, we need to be more informative about this.

Qualcomm: RAN will not give us an useful answer for an LS.

A draft LS was available in tdoc 739.

**Decision:** The document was **noted**.

**S3-192740 Conclusion for Key issue #3**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192739 LS to RAN2 on FBS detection**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, HiSilicon*

**Discussion:**

NTT-Docomo found this OK.

Huawei clarified that the two solutions would be attached to the LS.

Orange: study not finished, make it clear that more solutions may be available and these are not the final options.

Qualcomm: are we asking RAN2 to evaluate the solutions? Huawei replied that this was not a security issue. Qualcomm replied that no questions were asked but an evaluation was being asked. The Chair commented that this had been done in the past.

**Decision:** The document was **revised to S3-193175**.

**S3-193175 LS to RAN2 on FBS detection**

*Type: LS out For: Approval  
 to RAN2,RAN3  
 Source: Huawei, HiSilicon*

(Replaces S3-192739)

**Decision:** The document was **approved**.

**S3-192731 Solution#4: resolving EN network verification of the hashes of MIB/SIBs**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192732 Solution#4: Resolving EN Impact on UE power consumption**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192733 Solution #4: Details on the hash algorithm used for MIB/SIB hashes.**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192787 Solution for Avoiding UE connecting to False Base Station during Conditional Handover**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-192868 Way forward - KI#3 Proposal#6 False RBS handover**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Samsung*

**Decision:** The document was **not treated**.

**S3-192633 Security solution for UE to avoid connecting to the false base station during a handover procedure**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Intel Deutschland GmbH*

**Decision:** The document was **not treated**.

**S3-192729 Resolve EN "signaling details of how the UE hands over to false base station**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192730 Resolve the second and third EN in Solution #6**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192738 Evaluation of solution #6**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192735 Enabling UE to detect FBS**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192736 preventing the UE from reselecting to the false base station**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192737 Avoiding UE from Suffering More MitM Attacks by Handover**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-192869 Way forward - KI#4 Proposal#7 SON poisoning**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics*

**Decision:** The document was **not treated**.

**S3-192686 Conclusion on KI#5 of TR 33.809**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-192870 Way forward - KI#5 Proposal#8 Auth replay**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Samsung, Apple*

**Decision:** The document was **not treated**.

**S3-192685 Resolving the ENs in solution #5**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon, Lenovo, Motorola Mobility*

**Decision:** The document was **not treated**.

**S3-192743 Update of Solution #15**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Lenovo, Motorola Mobility*

**Decision:** The document was **not treated**.

**S3-192871 Way forward - KI#6 Proposal#9 radio jamming**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Apple, Samsung*

**Decision:** The document was **not treated**.

**S3-192872 Way forward - KI#7 Proposal#10 MitM**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Samsung*

**Decision:** The document was **not treated**.

**S3-192937 Evaluation against MitM false base station attacks**

*Type: discussion For: Endorsement  
 33.809 v..  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not treated**.

**S3-192640 5G paging security issue caused by false base station**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Apple*

**Decision:** The document was **not treated**.

**S3-192641 solution for new key issue of 5G paging security issue caused by false base station**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Apple*

**Decision:** The document was **not treated**.

**S3-192644 Meeting minutes of 5GFBS July conference call on July 18th**

*Type: discussion For: Information  
 33.809 v..  
 Source: Apple*

**Decision:** The document was **not treated**.

**S3-192645 Meeting minutes of 5GFBS August conference call on August 8th**

*Type: discussion For: Information  
 33.809 v..  
 Source: Apple*

**Decision:** The document was **not treated**.

**S3-193176 Draft TR 33.809**

*Type: draft TR For: Approval  
 33.809 v0.6.0  
 Source: Apple*

**Decision:** The document was **approved**.

### 8.8 Study on Security aspects of Enhancement of Network Slicing (FS\_eNS\_SEC) (Rel-16)

**S3-192852 Reference syntax updates**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

**S3-192829 Modification of solution#1**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: China Mobile*

**Discussion:**

This scenario was not covered earlier. No need to address it right now.

Interdigital: SA1 is covering this now in a WID (LUCIA).

Orange: this is going beyond slices, and some part of this may be covered by SA5. SA2 will handle LUCIA in their own WID and then SA3 will create a WID based on what SA2 is doing.

**Decision:** The document was **noted**.

**S3-192718 Adding evaluation to solution 3**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Nokia: slice specific authentication doesn’t depend on NSaaS.

**Decision:** The document was **noted**.

**S3-192746 User ID privacy**

*Type: discussion For: Approval  
 33.813 v..  
 Source: Lenovo, Motorola Mobility, Huawei*

**Decision:** The document was **noted**.

**S3-192742 Removal of Editor’s Notes of solution #5**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Lenovo, Motorola Mobility*

**Discussion:**

Nokia: no solutions are offered but editor's notes are gone.

Orange: keep the editor's notes.

Ericsson: the serving network is trusted, that's the assumption. Keep the first editor's note at least.

Qualcomm preferred to keep the editor's notes.

**Decision:** The document was **noted**.

**S3-192720 Addressing EN in solution 6**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Nokia didn’t agree with the removal of the editor's note.

Orange commented that there was a mismatch between the editor's note and the justification. No mechanism can be defined without an interface defined in 3GPP.

Potential additional text to help resolving the editor's note was taken offline.

**Decision:** The document was **revised to S3-193120**.

**S3-193120 Addressing EN in solution 6**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Huawei, HiSilicon*

(Replaces S3-192720)

**Decision:** The document was **noted**.

**S3-192721 Adding evaluation to solution 6**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **noted**.

**S3-192848 Adding evaluation to Solution 7**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193121**.

**S3-193121 Adding evaluation to Solution 7**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Ericsson*

(Replaces S3-192848)

**Decision:** The document was **approved**.

**S3-192722 Addressing ENs in solution 8**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **noted**.

**S3-192584 Update to Solution 8 protecting NSSAI in AS layer**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Nokia, Nokia Shanghai Bell, Ericsson*

**Discussion:**

Huawei only agreed with the first paragraph. This was kept in the revision.

**Decision:** The document was **revised to S3-193122**.

**S3-193122 Update to Solution 8 protecting NSSAI in AS layer**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Nokia, Nokia Shanghai Bell, Ericsson*

(Replaces S3-192584)

**Decision:** The document was **approved**.

**S3-192931 Resolving editor’s notes on solution #10 in TR 33.813**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Qualcomm Incorporated*

**Discussion:**

On the yellow text; Ericsson commented that management will be very complex.

**Decision:** The document was **revised to S3-193123**.

**S3-193123 Resolving editor’s notes on solution #10 in TR 33.813**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Qualcomm Incorporated*

(Replaces S3-192931)

**Decision:** The document was **approved**.

**S3-192528 TR 33.813 - update for solution #11**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution addresses the following Editor Notes for solution #11 in TR 33.813

**Discussion:**

Huawei: third paragraph not OK.

Nokia: in the solution part. all base stations under one AMF need to know all these hash values for routing the NAS messages to a particular AMF. Interdigital replied that it was by an update in the provisioning. It was decided to add an editor's note under step 5.

Qualcomm proposed to remove the first paragraph.

**Decision:** The document was **revised to S3-193124**.

**S3-193124 TR 33.813 - update for solution #11**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: InterDigital Communications*

(Replaces S3-192528)

**Decision:** The document was **approved**.

**S3-192627 Solution on privacy protection of NSSAI**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: ZTE Corporation*

**Discussion:**

Orange: add editor's notes on Home network control performance, how allocation of T-NSSAI is made.

Interdigital: editor's note on effectiveness with idle mobility.

**Decision:** The document was **revised to S3-193125**.

**S3-193125 Solution on privacy protection of NSSAI**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: ZTE Corporation*

(Replaces S3-192627)

**Decision:** The document was **approved**.

**S3-192719 Conclusions to KI #3**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **noted**.

**S3-192725 Conclusions to KI #4**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **noted**.

**S3-192723 Conclusions to KI #6**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **noted**.

**S3-192851 Conclusion on KI#6**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Ericsson, Nokia*

**Decision:** The document was **noted**.

**S3-192849 Discussion on AUSF role**

*Type: discussion For: Endorsement  
 33.813 v..  
 Source: Ericsson*

**Discussion:**

Qualcomm: this is not a security issue.

Ericsson: we agreed to use something and SA2 has agreed to use something else.

Nokia checked with SA2 colleagues and they replied that they did it for the routing in roaming situations.

Lenovo agreed with Ericsson.

**Decision:** The document was **noted**.

**S3-192850 Draft LS on AUSF role**

*Type: LS out For: Approval  
 to SA2  
 Source: Ericsson*

**Discussion:**

Zander (Huawei): I agree that there is no security reason behind having the AUSF. Qualcomm added that there was no security either with including it.

Marcus (Futurewei): the AUSF could introduce security problems, we don’t know.

This had to be taken offline; there was disagreement on the possibility of security issues due to introducing the AUSF.

**Decision:** The document was **revised to S3-193126**.

**S3-193126 LS on AUSF role**

*Type: LS out For: Approval  
 to SA2  
 Source: Ericsson*

(Replaces S3-192850)

**Decision:** The document was **approved**.

**S3-192744 New Key Issue on Rejected S-NSSAI Revocation**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Lenovo, Motorola Mobility*

**Discussion:**

Zander (Huawei): it's about cancelation not revocation. This is misleading.

Nokia: no standardised procedure when the primary authentication is cancelled, why do we have it here?

Vodafone favoured having this key issue, whereas Interdigital had some concerns.

Ericsson: if this is stage 3 issue as Lenovo said, why is this being treated here? Lenovo replied that it touched authentication issues.

Nokia: we cannot mandate a particular behaviour in this scenario.

It was taken offline to see if it was possible to add an editor's note to reach an agreement.

**Decision:** The document was **revised to S3-193201**.

**S3-193201 New Key Issue on Rejected S-NSSAI Revocation**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Lenovo, Motorola Mobility*

(Replaces S3-192744)

**Decision:** The document was **approved**.

**S3-192745 Solution on Slice Authentication Revocation**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Lenovo, Motorola Mobility*

**Decision:** The document was **noted**.

**S3-192724 Amendment to eNS WID**

*Type: pCR For: Approval  
 33.813 v0.5.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Zander(Huawei) commented that key issue 3,4 and 6 were to be removed. This was intended to conclude the WID. The vice chair (NTT-Docomo) commented that this seemed to be content for the WID summary input hat is usually sent to plenary to describe work items. No need to update the WID after the work has been done.

It was clarified that this was an update of the WID agreed in Sapporo and that it hadn't been seen in SA plenary yet.

Orange: why the key issues in a WID? We never do this.

Vodafone: reject this document, we have a WID already.

**Decision:** The document was **noted**.

**S3-193119 Draft TR 33.813**

*Type: draft TR For: Approval  
 33.813 v0.6.0  
 Source: Nokia*

**Decision:** The document was **approved**.

### 8.9 Study on Security of the enhancement to the 5GC location services (FS\_eLCS\_Sec) (Rel-16)

**S3-192676 Complete the Evaluation for Solution #4**

*Type: pCR For: Approval  
 33.814 v0.5.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes to complete the evaluation for solution #4 and resolve the editor’s note.

**Discussion:**

Vodafone: not clear if you are recommending it or rejecting it.

**Decision:** The document was **revised to S3-193127**.

**S3-193127 Complete the Evaluation for Solution #4**

*Type: pCR For: Approval  
 33.814 v0.5.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192676)

**Decision:** The document was **approved**.

**S3-192971 conclusion on KI#4**

*Type: pCR For: Approval  
 33.814 v0.5.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192751)

**Decision:** The document was **noted**.

**S3-192678 Conclusion on Key Issue #4**

*Type: pCR For: Approval  
 33.814 v0.5.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

this pCR proposes to conclude on key issue #4.

**Decision:** The document was **approved**.

**S3-192822 Draft CR as a living baseline for 5GS LCS normative work**

*Type: draftCR For: Approval  
 33.501 v15.5.0  
 Source: Ericsson*

**Discussion:**

It was clarified that this was merely for information.

Qualcomm commented that a separate specification may be needed instead and that the level of details for stage 3 parameters was too high.

The vice Chair (NTT-Docomo) clarified that there was a WID for the current meeting and this could be a possible output for that WID.

**Decision:** The document was **noted**.

**S3-192748 The solution to protect MIB/SIB information**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-192968**.

**S3-193128 Draft TR 33.814**

*Type: draft TR For: Approval  
 33.814 v0.6.0  
 Source: CATT*

**Decision:** The document was **approved**.

**S3-193129 Cover sheet TR 33.814 for approval**

*Type: TS or TR cover For: Approval  
 -33.814 v..  
 Source: CATT*

**Decision:** The document was **approved**.

### 8.10 Study on security for 5G URLLC (FS\_5G URLLC\_SEC) (Rel-16)

**S3-192765 Completing 33825**

*Type: pCR For: Approval  
 33.825 v1.1.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Telecom Italia: why is the editor's note converted into a note? Huawei replied that there was no conclusion about that in the study.

Colin (BT): low latency specific work hasn’t been done in this document.

**Decision:** The document was **approved**.

**S3-193130 Draft TR 33.825**

*Type: draft TR For: Approval  
 33.825 v1.2.0  
 Source: Huawei*

**Decision:** The document was **approved**.

**S3-193131 Cover sheet 33.825 for approval**

*Type: TS or TR cover For: Approval  
 33.825 v..  
 Source: Huawei*

**Decision:** The document was **approved**.

### 8.11 Study on SECAM and SCAS for 3GPP virtualized network products (FS\_VNP\_SECAM\_SCAS) (Rel-16)

**S3-192832 Adding gap analysis into clause 4.3.1**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

**Decision:** The document was **approved**.

**S3-192834 Adding contents into clause 4.4**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

**Decision:** The document was **approved**.

**S3-192835 Adding contents into clause 4.5**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

**Decision:** The document was **approved**.

**S3-192836 Resolving editor’s note and adding example of role instantiation into clause 4.6**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

**Decision:** The document was **approved**.

**S3-192837 Adding contents into clause 4.7**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

**Decision:** The document was **approved**.

**S3-192838 Adding contents into clause 4.8**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

**Decision:** The document was **revised to S3-193181**.

**S3-193181 Adding contents into clause 4.8**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

(Replaces S3-192838)

**Decision:** The document was **approved**.

**S3-192839 Adding contents into clause 4.8**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile M2M Company Ltd.*

**Decision:** The document was **approved**.

**S3-192840 Adding writing process overview into clause 5.1**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile M2M Company Ltd.*

**Decision:** The document was **approved**.

**S3-192841 Adding the description of the parts in SCAS documents and ToE into clause 5.2.1 and 5.2.2**

*Type: pCR For: (not specified)  
 33.818 v0.3.0  
 Source: China Mobile M2M Company Ltd.*

**Decision:** The document was **revised to S3-193182**.

**S3-193182 Adding the description of the parts in SCAS documents and ToE into clause 5.2.1 and 5.2.2**

*Type: pCR For: -  
 33.818 v0.3.0  
 Source: China Mobile M2M Company Ltd.*

(Replaces S3-192841)

**Decision:** The document was **approved**.

**S3-192842 Adding the description of Generic Virtualized Network Product model of type 1**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

**Discussion:**

Futurewei suggested to update the figure in the future for more accuracy, and this was added in an editor's note.

Nokia: FFS how ETSI defined interfaces are mapped to 3GPP interfaces.

CableLabs: add references where the ETSI interfaces are explained.

**Decision:** The document was **revised to S3-193183**.

**S3-193183 Adding the description of Generic Virtualized Network Product model of type 1**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

(Replaces S3-192842)

**Decision:** The document was **approved**.

**S3-192843 Adding the description for generic virtualized network product model of type 2**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile M2M Company Ltd.*

**Decision:** The document was **revised to S3-193184**.

**S3-193184 Adding the description for generic virtualized network product model of type 2**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile M2M Company Ltd.*

(Replaces S3-192843)

**Decision:** The document was **approved**.

**S3-192844 Adding the description for generic virtualized network product model of type 3**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

**Decision:** The document was **not treated**.

**S3-192845 Adding SPD for virtualized network products into clause 5.2.3**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile M2M Company Ltd.*

**Decision:** The document was **not treated**.

**S3-192846 Adding Generic assets and threats of GVNP for type 2 into clause 5.2.3.3**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

**Decision:** The document was **not treated**.

**S3-192847 Adding Generic assets and threats of GVNP for type 3 into clause 5.2.3.4**

*Type: pCR For: Approval  
 33.818 v0.3.0  
 Source: China Mobile*

**Decision:** The document was **not treated**.

**S3-193180 Draft TR 33.818**

*Type: draft TR For: Approval  
 33.818 v0.4.0  
 Source: China Mobile*

**Decision:** The document was **approved**.

### 8.12 Study on Security for 5GS Enhanced support of Vertical and LAN Services (FS\_Vertical\_LAN\_SEC) (Rel-16)

**S3-192594 TR33.819 update as baseline - editorial**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **approved**.

**S3-192595 Adding intro to 33.819**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

The introduction needed rewording.

**Decision:** The document was **noted**.

**S3-192598 Secure device identity creation for UEs in SNPNs**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Nokia, Nokia Shanghai Bell, Perspecta Labs, Interdigital*

**Decision:** The document was **noted**.

**S3-192599 Key issue on Secure device identity creation for constrained devices**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Nokia, Nokia Shanghai Bell, Perspecta Labs, Interdigital*

**Discussion:**

Orange: secure something we don’t know the nature of. Not keen on having this key issue.

Gemalto: key issue details are solution specific and I support Orange.

Other comments: Non-3GPP identities, difficult to define them. Not known about the identity, we cannot state how to secure it.

There were 4 companies objecting, 5 companies supporting.

This was taken offline.

**Decision:** The document was **revised to S3-193193**.

**S3-193193 Key issue on Secure network credentials creation for constrained devices**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Nokia, Nokia Shanghai Bell, Perspecta Labs, Interdigital*

(Replaces S3-192599)

**Decision:** The document was **noted**.

**S3-192596 TSC update**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **approved**.

**S3-192597 TSC key issue on time synchronization**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

BT: what is confidentiality protection doing here if it is not plain text? It's not doing much.

**Decision:** The document was **revised to S3-193133**.

**S3-193133 TSC key issue on time synchronization**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192597)

**Decision:** The document was **approved**.

**S3-192953 Conclusion to Key Issue #6.1**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Samsung*

**Discussion:**

Interdigital: too early for this conclusion. Ericsson agreed about the conclusion.

**Decision:** The document was **revised to S3-193134**.

**S3-193134 Conclusion to Key Issue #6.1**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Samsung*

(Replaces S3-192953)

**Discussion:**

Evaluation change stayed.

**Decision:** The document was **approved**.

**S3-192526 TR 33.819 - DH based solution for CAG ID privacy**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution proposes a solution to address PNiNPN related key issue #6.2: CAG ID Privacy.

**Discussion:**

Ericsson: effectiveness of the solution against false base stations needs to be evaluated as well. This was added in an editor's note.

Qualcomm: Adding Diffie Hellman undermines the security of broadcast.

CableLabs: best if you send a hash of CAG ID.

NCSC reminded that using Diffie Hellman is not quantum safe.

It was revised in order to add a number of editor's notes to address all comments.

**Decision:** The document was **revised to S3-193135**.

**S3-193135 TR 33.819 - DH based solution for CAG ID privacy**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: InterDigital Communications*

(Replaces S3-192526)

**Decision:** The document was **approved**.

**S3-192527 TR 33.819 - hash based solution for CAG ID privacy**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution proposes a solution to address PNiNPN related key issue #6.2: CAG ID Privacy.

**Decision:** The document was **revised to S3-193136**.

**S3-193136 TR 33.819 - hash based solution for CAG ID privacy**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: InterDigital Communications*

(Replaces S3-192527)

**Discussion:**

Adding several editor's notes addressing Huawei's comments.

**Decision:** The document was **approved**.

**S3-192529 TR 33.819 - Update for solution 9**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution updates solution 9 and addresses the Editor Note in it.

**Decision:** The document was **approved**.

**S3-192954 New solution for CAG ID privacy**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Samsung,Intel*

**Discussion:**

Intel supported this contribution.

**Decision:** The document was **approved**.

**S3-192619 Security solution for CAG**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: ZTE Corporation*

**Decision:** The document was **approved**.

**S3-192690 Solution for CAG ID protection**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Interdigital: not sure if this is compatible with existing SA2 procedures. An editor's note was added for this.

**Decision:** The document was **revised to S3-193141**.

**S3-193141 Solution for CAG ID protection**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192690)

**Decision:** The document was **approved**.

**S3-192928 Solution for the privacy protection of CAG ID using NAS signalling**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Qualcomm Incorporated*

**Discussion:**

Qualcomm wanted to send an LS to SA2 so they could check the solution. It was too early for this for Samsung.

**Decision:** The document was **approved**.

**S3-193142 LS on sending CAG-ID in NAS signalling**

*Type: LS out For: Approval  
 to SA2,RAN2,RAN3, cc CT1  
 Source: Qualcomm Incorporated*

**Decision:** The document was **approved**.

**S3-192925 Proposed conclusion to key issue 6.3 on modifying the CAG list**

*Type: pCR For: Approval  
 33.819 v1.1.0  
 Source: Qualcomm Incorporated*

**Decision:** The document was **approved**.

**S3-192926 Adding modification of CAG list security to the draft CR**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision:** The document was **approved**.

**S3-192751 conclusion on KI#4**

*Type: pCR For: Approval  
 33.814 v0.5.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-192971**.

**S3-193132 Draft TR 33.819**

*Type: draft TR For: Approval  
 33.819 v1.2.0  
 Source: Nokia*

**Decision:** The document was **approved**.

### 8.13 Study on LTKUP Detailed solutions (FS\_LTKUP\_Detail) (Rel-16)

**S3-192656 pCR to TR33.935 - Addition of Diffie - Helman Key agreements section**

*Type: pCR For: Agreement  
 33.935 v0.1.0  
 Source: Vodafone España SA*

**Decision:** The document was **withdrawn**.

### 8.14 Study on User Plane Integrity Protection (FS\_UP\_IP\_Sec) (Rel-16)

**S3-192536 Proposal to solve ED notes in solution#4: Zero-overhead user plane integrity protection on the link layer**

*Type: pCR For: Approval  
 33.853 v0.4.0  
 Source: Philips International B.V.*

**Abstract:**

This contribution proposes solutions to the editor's notes in clause 6.4 Solution #4: Zero-overhead user plane integrity protection on the link layer.

**Discussion:**

Qualcomm disagreed with the document and opted for having it noted.

Samsung had similar issues with this document.

**Decision:** The document was **noted**.

**S3-192647 Update to Key issue#5 in UP IP**

*Type: pCR For: Approval  
 33.853 v0.4.0  
 Source: Apple*

**Discussion:**

Nokia: impact on the PDCP protocol? Apple answered that she thought so.

Suresh (Nokia): the impact is not captured here.

**Decision:** The document was **revised to S3-193143**.

**S3-193143 Update to Key issue#5 in UP IP**

*Type: pCR For: Approval  
 33.853 v0.4.0  
 Source: Apple*

(Replaces S3-192647)

**Discussion:**

Improving the English.

**Decision:** The document was **approved**.

**S3-192648 Solution to key issue#5 in UP IP**

*Type: pCR For: Approval  
 33.853 v0.4.0  
 Source: Apple*

**Discussion:**

Qualcomm: the attacker could still attack the data part of the packet. I don’t think this solution works.

Deutsche Telekom: this doesn't solve the problem.

Vodafone didn't find this solution workable either.

**Decision:** The document was **noted**.

**S3-192659 pCR to 33.853 - addition of solution for LTE**

*Type: pCR For: Agreement  
 33.853 v0.4.0  
 Source: Vodafone España SA*

**Discussion:**

NEC: this introduces more complexity. They didn’t agree with the contribution.

Deutsche Telekom: one thing is deployment and another is technical viability. We cannot discard it just because we think it will not be deployed. BT and CableLabs agreed.

Qualcomm: first two options should go and some more technical details on the others need to be added.

Vodafone asked for support in order to create an EPC version of this paper for next meeting.

**Decision:** The document was **revised to S3-193144**.

**S3-193144 pCR to 33.853 - addition of solution for LTE**

*Type: pCR For: Approval  
 33.853 v0.4.0  
 Source: Vodafone España SA*

(Replaces S3-192659)

**Decision:** The document was **approved**.

**S3-192662 CR to 33.401 - Addition of User Plane Integrity Protection**

*Type: draftCR For: Agreement  
 33.401 v15.8.0  
 Source: Vodafone España SA*

**Decision:** The document was **withdrawn**.

**S3-192728 Resolving the Editor's note for Solution 5 in TR 33.853**

*Type: pCR For: Approval  
 33.853 v0.4.0  
 Source: China Mobile*

**Discussion:**

Qualcomm: I don't believe this is true, but maybe we could send an LS to a RAN group to ask for their opinion. The editor's note should stay.

Colin (BT):

**Decision:** The document was **revised to S3-193145**.

**S3-193145 Resolving the Editor's note for Solution 5 in TR 33.853**

*Type: pCR For: Approval  
 33.853 v0.4.0  
 Source: China Mobile*

(Replaces S3-192728)

**Decision:** The document was **approved**.

**S3-192801 New Solution for a UE connected to 5GC indicating its support of UP IP over eUTRA**

*Type: pCR For: Approval  
 33.853 v0.4.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193146**.

**S3-193146 New Solution for a UE connected to 5GC indicating its support of UP IP over eUTRA**

*Type: pCR For: Approval  
 33.853 v0.4.0  
 Source: Ericsson*

(Replaces S3-192801)

**Discussion:**

Adding an editor's note addressing Nokia's concerns.

Changes in notation as proposed by Qualcomm.

**Decision:** The document was **approved**.

**S3-192902 Resolving Editor’s Note in Solution #1**

*Type: pCR For: Approval  
 33.853 v0.4.0  
 Source: Samsung*

**Discussion:**

Qualcomm didn’t agree with this analysis.

Nokia didn’t agree with the new sentence.

There was no support for this paper.

**Decision:** The document was **noted**.

**S3-192905 Conclusion to Key Issue #5**

*Type: pCR For: (not specified)  
 33.853 v0.4.0  
 Source: Samsung*

**Decision:** The document was **noted**.

**S3-193147 Draft TR 33.853**

*Type: draft TR For: Approval  
 33.853 v0.5.0  
 Source: Vodafone*

**Decision:** The document was **approved**.

### 8.15 Study on Security Impacts of Virtualisation (FS\_SIV) (Rel-16)

NCSC commented that the intention of the Rapporteur (BT who was absent at the time) was to stop the study and request SA to transfer the work to ETSI TC CYBER. The reason was the high workload in SA3 and the work item prioritization that affected badly the progress on the study. This is why all documents except one were noted or not treated during this meeting.

The discussions on this issue and confirmation of the transfer would have to be taken at SA plenary level.

**S3-192973 Virtualisation Study Key Issue 22 was S3-191857**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: BT plc*

**Decision:** The document was **not treated**.

**S3-192974 Virtualisation Study Key Issue 23 was S3-191858**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: BT plc*

**Decision:** The document was **not treated**.

**S3-192975 Virtualisation Study Key Issue 24 was S3-191859**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: BT plc*

**Decision:** The document was **not treated**.

**S3-192541 TR 33.848 Annex - Administration of Virtualisation**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **revised to S3-193088**.

**S3-193088 TR 33.848 Annex - Administration of Virtualisation**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

(Replaces S3-192541)

**Decision:** The document was **noted**.

**S3-192542 TR 33.848 Annex - Virtualisation Security Questions**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **revised to S3-193089**.

**S3-193089 TR 33.848 Annex - Virtualisation Security Questions**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

(Replaces S3-192542)

**Decision:** The document was **noted**.

**S3-192543 TR 33.848 Clarifications for Section 4**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **noted**.

**S3-192544 TR 33.848 Security Threats and Requirements for Key Issue 1**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **revised to S3-193090**.

**S3-193090 TR 33.848 Security Threats and Requirements for Key Issue 1**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

(Replaces S3-192544)

**Decision:** The document was **noted**.

**S3-192890 Threats and Requirements for Key Issue #2**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes some updates to the threats and the requirements for key issue #2 in TR 33.848.

**Decision:** The document was **revised to S3-193091**.

**S3-193091 Threats and Requirements for Key Issue #2**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192890)

**Decision:** The document was **approved**.

**S3-192545 TR 33.848 Security Requirements for Key Issue 3**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC,Nokia*

**Decision:** The document was **merged**.

**S3-192891 Threats and Requirements for Key Issue #3**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes some updates to the threats and the requirements for key issue #3 in TR 33.848.

**Decision:** The document was **revised to S3-193092**.

**S3-193092 Threats and Requirements for Key Issue #3**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-192891)

**Decision:** The document was **noted**.

**S3-192546 TR 33.848 Security Threats and Requirements for Key Issue 4**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **revised to S3-193093**.

**S3-192892 Threats and Requirements for Key Issue #4**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes the threats and the requirements for key issue #4 in TR 33.848.

**Decision:** The document was **merged**.

**S3-192547 TR 33.848 Security Threats and Requirements for Key Issue 5**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **merged**.

**S3-193093 TR 33.848 Security Threats and Requirements for Key Issue 5**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC,Nokia*

(Replaces S3-192546)

**Decision:** The document was **noted**.

**S3-192899 Threats and Requirements for Key Issue #5**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes the threats and the requirements for key issue #5 in TR 33.848.

**Decision:** The document was **revised to S3-193094**.

**S3-193094 Threats and Requirements for Key Issue #5**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell,NCSC*

(Replaces S3-192899)

**Decision:** The document was **noted**.

**S3-192548 TR 33.848 Security Threats and Requirements for Key Issue 6**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **noted**.

**S3-192549 TR 33.848 Security Threats and Requirements for Key Issue 7**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **noted**.

**S3-192550 TR 33.848 Security Threats and Requirements for Key Issue 8**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **noted**.

**S3-192900 Threats and Requirements for Key Issue #8**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes the threats and the requirements for key issue #8 in TR 33.848.

**Decision:** The document was **not treated**.

**S3-192551 TR 33.848 Security Threats and Requirements for Key Issue 9**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192552 TR 33.848 Security Threats and Requirements for Key Issue 10**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192553 TR 33.848 Security Threats and Requirements for Key Issue 11**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192554 TR 33.848 Security Threats and Requirements for Key Issue 12**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192555 TR 33.848 Security Threats and Requirements for Key Issue 13**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192901 Threats and Requirements for Key Issue #13**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes the threats and the requirements for key issue #13 in TR 33.848.

**Decision:** The document was **not treated**.

**S3-192556 TR 33.848 Security Threats and Requirements for Key Issue 14**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192557 TR 33.848 Security Threats and Requirements for Key Issue 15**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192558 TR 33.848 Security Threats and Requirements for Key Issue 16**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192559 TR 33.848 Security Requirements for Key Issue 17**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192904 Threats and Requirements for Key Issue #17**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes the threats and the requirements for key issue #17 in TR 33.848.

**Decision:** The document was **not treated**.

**S3-192560 TR 33.848 Security Requirements for Key Issue 18**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192906 Threats and Requirements for Key Issue #18**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes the threats and the requirements for key issue #18 in TR 33.848.

**Decision:** The document was **not treated**.

**S3-192561 TR 33.848 Security Requirements for Key Issue 19**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192908 Threats and Requirements for Key Issue #20**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes the threats and the requirements for key issue #20 in TR 33.848.

**Decision:** The document was **not treated**.

**S3-192562 TR 33.848 Security Threats and Requirements for Key Issue 21**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: NCSC*

**Decision:** The document was **not treated**.

**S3-192910 Threats and Requirements for Key Issue #21**

*Type: pCR For: Approval  
 33.848 v0.2.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This pCR proposes the threats and the requirements for key issue #21 in TR 33.848.

**Decision:** The document was **not treated**.

**S3-192958 Categorization of the Key Issues**

*Type: discussion For: Endorsement  
 33.848 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This papers intends to discuss how to categorize the current 21 key issues in TR 33.848 with a proposal.

**Decision:** The document was **not treated**.

**S3-193063 Notes on the evening session on SIV**

*Type: report For: Information  
 Source: BT*

**Decision:** The document was **noted**.

**S3-193185 Draft TR 33.848**

*Type: draft TR For: Approval  
 33.848 v0.3.0  
 Source: BT*

**Decision:** The document was **approved**.

### 8.16 Study on authentication enhancements in 5GS (FS\_AUTH\_ENH) (Rel-16)

**S3-192919 Update of Authentication Enhancements SID**

*Type: SID revised For: Agreement  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-193186**.

**S3-193186 Update of Authentication Enhancements SID**

*Type: SID revised For: Agreement  
 Source: Qualcomm Incorporated*

(Replaces S3-192919)

**Discussion:**

Including the new dates.

**Decision:** The document was **agreed**.

**S3-192879 New KI: Security of session anchor keys in case the long-term key is leaked**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Ericsson*

**Discussion:**

Vodafone objected to this key issue. Orange wasn't happy with this either.

Thales didn't support this either and commented that this had been brought several times before and rejected.

Vodafone: this needs to be updated with the discussions we've had before: rewording the key issue especially.

Ericsson decided to keep discussing this offline and bring an update for the next meeting.

**Decision:** The document was **noted**.

**S3-192680 Key issue to mitigate the SUPI guessing attacks**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: China Mobile*

**Discussion:**

Orange: more details on the attack are needed. Bring a discussion paper for this for the next meeting.

Ericsson: I don’t see the relation of this with the objectives of the study.

**Decision:** The document was **noted**.

**S3-192692 Key issue on the authenticaiton result storage in the UDM**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: out of scope of the objectives of the study.

Vodafone: the title is the solution, not the key issue.

Huawei commented that last meeting SA3 decided to bring this key issue. Deutsche Telekom: the wording of the key issue is too focused on the solution already.

Orange: editor's note on the improvement of the key issue details. Remove threats and requirements.

Ericsson: link it better with the study objectives.

**Decision:** The document was **revised to S3-193187**.

**S3-193187 Key issue on the authenticaiton result storage in the UDM**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192692)

**Decision:** The document was **approved**.

**S3-192920 Proposed re-wording of the requirement in key issue #4.1 in TR 33.846**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Qualcomm Incorporated*

**Decision:** The document was **approved**.

**S3-192880 New Solution:EAP-AKA´ PFS**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Ericsson*

**Decision:** The document was **noted**.

**S3-192622 Handling of Sync failure**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: ZTE Corporation*

**Discussion:**

Thales: replace ME with UE.

Orange: remove the evaluation.

Vodafone: key issues are oddly numbered throughout the document. Can we give an action to the Rapporteur to fix the skeleton and clause numbering?

Apple: security risk of using a fixed key is FFS.

**Decision:** The document was **revised to S3-193189**.

**S3-193189 Handling of Sync failure**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: ZTE Corporation*

(Replaces S3-192622)

**Decision:** The document was **approved**.

**S3-192681 A Solution for Key Isssue#2.1 and key issue #4.1 in TR 33.846**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: China Mobile*

**Decision:** The document was **revised to S3-193190**.

**S3-193190 A Solution for Key Isssue#2.1 and key issue #4.1 in TR 33.846**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: China Mobile*

(Replaces S3-192681)

**Decision:** The document was **approved**.

**S3-192972 mitigate the linkability attack**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192752)

**Discussion:**

Qualcomm: remove changes from scope.

Ericsson wanted some more details in the description of the solution.

**Decision:** The document was **revised to S3-193191**.

**S3-193191 mitigate the linkability attack**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192972)

**Decision:** The document was **approved**.

**S3-192621 Structure RAND for authentication**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**S3-192663 33.846: mitigation against linkability attack**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: THALES*

**Abstract:**

Mitigation against linkability attack

**Decision:** The document was **not treated**.

**S3-192684 New solution for linkability attack**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-192921 Using MACS to provide freshness for the protection of SQN during a re-synchronisation procedure in AKA**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Qualcomm Incorporated*

(Replaces S3-191908)

**Decision:** The document was **not treated**.

**S3-192970 Proposed solution on protecting the SQN during a re-synchronisation procedure in AKA**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192750)

**Decision:** The document was **not treated**.

**S3-192623 Conclusion on linkability issues**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**S3-192679 Key issue to mitigate the SUPI guessing attacks**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: China Mobile*

**Decision:** The document was **withdrawn**.

**S3-193188 Draft TR 33.846**

*Type: draft TR For: Approval  
 33.846 v0.3.0  
 Source: Ericsson*

**Decision:** The document was **approved**.

### 8.17 Study on Security for NR Integrated Access and Backhaul (FS\_NR\_IAB\_Sec)

**S3-192665 IAB-node: terminology change**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: THALES, ORANGE*

**Abstract:**

IAB-node: terminology change

**Discussion:**

Zte: A change more intended for a TS than for a TR.

Orange: everything we write in SA3 is about the UE and not the MT. MT is a radio concept, but we go beyond the radio part in SA3.

Ericsson: SA2 also uses MT.

**Decision:** The document was **revised to S3-193148**.

**S3-193148 IAB-node: terminology change**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: THALES, ORANGE*

(Replaces S3-192665)

**Discussion:**

Adding an editor's note on the terminology.

**Decision:** The document was **approved**.

**S3-192825 IAB: Assumptions related to key hierarchy in IAB architecture in 5G**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-193150**.

**S3-193150 IAB: Assumptions related to key hierarchy in IAB architecture in 5G**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Ericsson*

(Replaces S3-192825)

**Discussion:**

Addressing the comments on the use of MT.

**Decision:** The document was **approved**.

**S3-192969 Key issue on removal of USIM card in IAB node**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192749)

**Discussion:**

Orange: I don't understand the key issue.

Nokia: this is a deployment issue.

Qualcomm didn’t agree either. There was no support for this key issue.

**Decision:** The document was **noted**.

**S3-192911 Requirement on authorization of IAB Node**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Samsung*

**Discussion:**

Qualcomm: what does "evaluated" mean in the requirement? This was reworded.

**Decision:** The document was **revised to S3-193151**.

**S3-193151 Requirement on authorization of IAB Node**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Samsung*

(Replaces S3-192911)

**Decision:** The document was **approved**.

**S3-192912 Solution for authorization of IAB Node**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Samsung*

**Discussion:**

Qualcomm: the description is incomplete.

**Decision:** The document was **revised to S3-193152**.

**S3-193152 Solution for authorization of IAB Node**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Samsung*

(Replaces S3-192912)

**Discussion:**

Change in clause 6.3.1.1 removed.

**Decision:** The document was **approved**.

**S3-192914 Evaluation of solution #2.1**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Samsung*

**Discussion:**

Orange: the solution is not clear. I cannot evaluate this.

**Decision:** The document was **noted**.

**S3-192915 Evaluation of solution #3.1**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Samsung*

**Discussion:**

Qualcomm opposed to having this. This was noted.

**Decision:** The document was **noted**.

**S3-192917 Conclusion to Key Issue#2.1 on authentication and authorization of the IAB Node**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Samsung*

**Decision:** The document was **noted**.

**S3-192826 KI #2.3: security threats and potential requirements**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Ericsson*

**Discussion:**

Qualcomm and Huawei disagreed with the security requirement. This was gone.

Nokia: add an editor's note on additional threat parameters that could be included here.

**Decision:** The document was **revised to S3-193153**.

**S3-193153 KI #2.3: security threats and potential requirements**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Ericsson*

(Replaces S3-192826)

**Decision:** The document was **approved**.

**S3-192827 New solution: secure recovery from backhaul-RLF**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Ericsson*

**Discussion:**

Qualcomm had numerous comments and preferred to have it noted. Huawei had the same opinion.

**Decision:** The document was **noted**.

**S3-193149 Draft TR 33.824**

*Type: draft TR For: Approval  
 33.824 v0.4.0  
 Source: Samsung*

**Decision:** The document was **approved**.

### 8.18 Study on Security Aspects of 3GPP support for Advanced V2X Services (FS\_eV2X\_Sec)

**S3-192534 LS on the call for proposals for an internationally agreed Vehicular Multimedia Architecture**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: ITU-T FG-VM*

**Decision:** The document was **noted**.

**S3-192507 Reply LS to Reply LS on protection of PC5-RRC messages for sidelink unicast communication**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1908229*

**Decision:** The document was **noted**.

**S3-192522 33.836 - solution #1 update**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution addresses Editor Notes in Solution #1 of TR 33.836.

**Discussion:**

Ericsson proposed adding an editor's note on which messages are integrity protected and trackability problem. The second editor's note was brought back instead.

**Decision:** The document was **revised to S3-193154**.

**S3-193154 33.836 - solution #1 update**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: InterDigital Communications*

(Replaces S3-192522)

**Decision:** The document was **approved**.

**S3-192523 TR 33.836 - update for solution #2**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution addresses the Editor Notes in solution #2 of TR 33.836.

**Discussion:**

LG: the first editor's note should stay, as we need additional clarification. Is there Prose architecture for NR implied? Interdigital said so, and LG replied that there was no ProSe architecture in release 16. A note should be added.

**Decision:** The document was **revised to S3-193155**.

**S3-193155 TR 33.836 - update for solution #2**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: InterDigital Communications*

(Replaces S3-192523)

**Decision:** The document was **approved**.

**S3-192524 TR 33.836 - solution #3 update**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution addresses Editor Notes in solution #3 of TR 33.836.

**Discussion:**

Same case as previous contribution, and the same editor's note was added as suggested by LG.

Ericsson proposed to highlight the difference between this and solution 2.

**Decision:** The document was **revised to S3-193157**.

**S3-193157 TR 33.836 - solution #3 update**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: InterDigital Communications*

(Replaces S3-192524)

**Decision:** The document was **approved**.

**S3-192525 TR 33.836 solution #4 update**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution addresses Editor Notes in solution #4 of TR 33.836.

**Decision:** The document was **revised to S3-193158**.

**S3-193158 TR 33.836 solution #4 update**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: InterDigital Communications*

(Replaces S3-192525)

**Discussion:**

Same editor's notes about 5G Prose were added.

**Decision:** The document was **approved**.

**S3-192571 new solution on privacy protection for unicast**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

**Discussion:**

LG was not happy about NOTE 2 and proposed to remove it. Interdigital added that the solution didn’t consider the trackability and linkability of identities. Qualcomm considered the point as valid and an editor's note was added.

**Decision:** The document was **revised to S3-193159**.

**S3-193159 new solution on privacy protection for unicast**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

(Replaces S3-192571)

**Decision:** The document was **approved**.

**S3-192634 eV2X: New solution for Security for eV2X unicast messages over PC5**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: Intel Deutschland GmbH*

**Decision:** The document was **revised to S3-193160**.

**S3-193160 eV2X: New solution for Security for eV2X unicast messages over PC5**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: Intel Deutschland GmbH*

(Replaces S3-192634)

**Discussion:**

Motorola: replay protection should be addressed. This was taken offline.

Interdigital had multiple comments that were addressed in editor's notes.

**Decision:** The document was **approved**.

**S3-192932 Proposed solution for deriving PC5 layer keys based on higher layer keys**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-193161**.

**S3-193161 Proposed solution for deriving PC5 layer keys based on higher layer keys**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: Qualcomm Incorporated*

(Replaces S3-192932)

**Decision:** The document was **approved**.

**S3-192649 Update to Key issue#5 in eV2X**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: Apple*

**Discussion:**

Interdigital: this requirement is not enough.

**Decision:** The document was **noted**.

**S3-192569 new KI on privacy protection for broadcast**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

**Decision:** The document was **revised to S3-193162**.

**S3-193162 new KI on privacy protection for broadcast**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

(Replaces S3-192569)

**Discussion:**

Adding an editor's note as proposed by Ericsson.

**Decision:** The document was **approved**.

**S3-192570 new solution on privacy protection for broadcast and groupcast**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

**Discussion:**

LG: No requirement to justify 6.Y.2.1 in 3GPP for Unicast. Remove the whole clause. Qualcomm didn’t understand why introducing PC5 signalling; besides, according to SA2's agreements on broadcast and groupcast this solution is not needed.

**Decision:** The document was **noted**.

**S3-192741 V2X Group Key Provisioning**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: Lenovo, Motorola Mobility*

**Discussion:**

Interdigital proposed an editor's note on the solution working out of coverage. This was agreed.

An additional editor's note on SA2's decision on the group management was also added.

**Decision:** The document was **revised to S3-193163**.

**S3-193163 V2X Group Key Provisioning**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: Lenovo, Motorola Mobility*

(Replaces S3-192741)

**Decision:** The document was **approved**.

**S3-192572 new KI on increasing robustness and reliability in L2 ID update procedure**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

**Decision:** The document was **noted**.

**S3-192573 new solution on increasing robustness and reliability in L2 ID update procedure**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

**Decision:** The document was **noted**.

**S3-192574 new KI on minimizing the impact of privacy protection mechanism in the application layer communication**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

**Decision:** The document was **revised to S3-193164**.

**S3-193164 new KI on minimizing the impact of privacy protection mechanism in the application layer communication**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

(Replaces S3-192574)

**Decision:** The document was **approved**.

**S3-192575 new solution on minimizing the impact of privacy protection mechanism in the application layer communication**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

**Discussion:**

LG: revise the figure to address the unicast case.

The evaluation was also removed.

**Decision:** The document was **revised to S3-193165**.

**S3-193165 new solution on minimizing the impact of privacy protection mechanism in the application layer communication**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

(Replaces S3-192575)

**Decision:** The document was **approved**.

**S3-192695 New KI: Key issue on UP security policy handling for PC5 and Uu interface**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-193166**.

**S3-193166 New KI: Key issue on UP security policy handling for PC5 and Uu interface**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: Huawei, Hisilicon*

(Replaces S3-192695)

**Discussion:**

Just to remove "SA5" next to the reference.

**Decision:** The document was **approved**.

**S3-192727 Solution on Cross-RAT PC5 control authorization indication**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **approved**.

**S3-192568 terminology alignment on groupcast**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

**Decision:** The document was **revised to S3-193167**.

**S3-193167 terminology alignment on groupcast**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

(Replaces S3-192568)

**Discussion:**

LG asked to remove the added requirements.

**Decision:** The document was **approved**.

**S3-192567 Editorial corrections for eV2X SI TR 33.836 v0.3.0**

*Type: pCR For: Approval  
 33.836 v0.2.0  
 Source: NEC Corporation*

**Discussion:**

MCC commented that the existent text: "However no IE has been defined for the for the cross-RAT PC5 control authorization indication. It has been decided that SA3 shall make a decision on this matter " needed re-wording.

**ACTION: Reword the sentence "However no IE has been defined for the for the cross-RAT PC5 control authorization indication. It has been included decided that SA3 shall make a decision on this matter."  
 (action on: Rapporteur / due by: 2019-11-17)**

**Decision:** The document was **approved**.

**S3-193137 LS on link layer ID update**

*Type: LS out For: Approval  
 to SA2  
 Source: NEC*

**Decision:** The document was **withdrawn**.

**S3-193156 Draft TR 33.836**

*Type: draft TR For: Approval  
 33.836 v0.3.0  
 Source: LG*

**Decision:** The document was **approved**.

### 8.19 Other study areas

**S3-192819 ARPF Deployment models**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Decision:** The document was **not treated**.

**S3-192820 Security Parameter Storage**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Decision:** The document was **not treated**.

**S3-192821 Privacy Aspects of ARPF deployment**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Decision:** The document was **not treated**.

**S3-192666 Update to TR33.xxx Storage of Secure Parameters in a 5G system - addition of content to section 4**

*Type: discussion For: Decision  
 Source: Vodafone España SA*

**Decision:** The document was **withdrawn**.

**S3-192667 Update to TR33.xxx Storage of Secure Parameters in a 5G system - addition of content to section 5**

*Type: discussion For: Decision  
 Source: Vodafone España SA*

**Decision:** The document was **withdrawn**.

**S3-192670 Update to TR33.xxx Storage of Secure Parameters in a 5G system - addition of KI - Long term key leakage**

*Type: discussion For: (not specified)  
 Source: Vodafone España SA*

**Decision:** The document was **withdrawn**.

**S3-192673 Update to TR33.xxx Storage of Secure Parameters in a 5G system - addition of KI - discovery of correct privacy service**

*Type: discussion For: Decision  
 Source: Vodafone España SA*

**Decision:** The document was **withdrawn**.

**S3-192646 Discussion on 5G UE privacy when connecting to EPC**

*Type: discussion For: Agreement  
 Source: Apple*

**Decision:** The document was **not treated**.

**S3-192750 Proposed solution on protecting the SQN during a re-synchronisation procedure in AKA**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-192970**.

**S3-192752 mitigate the linkability attack**

*Type: pCR For: Approval  
 33.846 v0.2.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-192972**.

### 8.20 New study item proposals

**S3-192517 Issues with encryption of satellite backhaul**

*Type: discussion For: Discussion  
 Source: TNO, Avanti, iDirect, University of Surrey, SES*

**Abstract:**

Encryption of backhaul using satellite connections has its issues. This discussion paper illustrates a number of issues and proposes to start a study on these issues.

**Discussion:**

Nokia: which 3GPP node has an impact?

TNO: the backhaul is confidentially protected according to our specs; this would be a similar case to the SEPPs when connecting different networks, so that would impact our requirement.

Nokia: but there is no impact on 3GPP nodes then.

NTT-Docomo: profiling PEP for use in NDS? Not much else to do and not really a high priority. TNO: this is intended for Release 17.

Interdigital: redesign Ipsec here is the motivation? We are not the right place to change it.

Qualcomm: you can use any technology to confidentiality protect the satellite link, not Ipsec necessarily. Not clear to me what we need to study.

**Decision:** The document was **noted**.

**S3-192515 draftTR33.xxx Storage of sensitive credentials in 5G systems v0.0.1**

*Type: discussion For: (not specified)  
 Source: Vodafone España SA*

**Abstract:**

living document (in the style of a TR) for the UDR topic

**Decision:** The document was **noted**.

**S3-192650 EAP-AKA privacy enhancement in non-3GPP access to EPS**

*Type: SID new For: Approval  
 Source: Apple*

**Discussion:**

Orange: handle 3GPP and non-3GPP access. Rewrite to handle the privacy aspects EPS over 3GPP and non-3GPP accesses.

Nokia: this would increase greatly the work, and there is no time.

CableLabs supported the study.

China Mobile agreed with Nokia, the scope would be too wide if extending to 3GPP access.

Qualcomm: an attack can use a false base station, no value restricting to non 3GPP access. We had a look at this already, no need to have this SID. Operators can always move to 5G core.

Vodafone: potential solutions seem to be changing features in 3GPP due to the non 3GPP side issues, when the latter should be the ones addressing them.

Alex(BT) supported Orange and had sympathy for Qualcomm. No objection for the study, but it should be done properly by increasing the scope.

Apple clarified that the release could be 17 if necessary.

Vodafone warned that there were several companies that didn’t attend SA3 as supporters. There was a reminder that the signing companies committed to contribute and participate in the study work actively.

**Decision:** The document was **revised to S3-192995**.

**S3-192995 EAP-AKA privacy enhancement in non-3GPP access to EPS**

*Type: SID new For: Agreement  
 Source: Apple*

(Replaces S3-192650)

**Decision:** The document was **noted**.

**S3-192749 Key issue on removal of USIM card in IAB node**

*Type: pCR For: Approval  
 33.824 v0.3.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-192969**.

**S3-192831 Discussion on study on user plane security termination point in 5GC**

*Type: discussion For: Endorsement  
 Source: CATT*

**Decision:** The document was **withdrawn**.

**S3-192903 SID on Rel16 onwards Storage of Secure Parameters in a 5G system**

*Type: SID new For: Agreement  
 Source: Vodafone España SA*

**Discussion:**

CableLabs supported this SID.

Deutsche Telekom: what is a secure parameter? It's about parameters to be secured. Vodafone: This is a section in CT4 identifying what parameters need to be secure.

Nokia objected to this SID. Looking at security parameters could be done without a SID, business as usual. There are no objectives here, just have an understanding of the parameters which is part of the ongoing work with CT4.

The objectives discussion had to be taken offline.

MCC commented that there was no need to have release 16 in the title or acronym since it would apply to release 16 anyway.

NTT-Docomo: not so simple to have everything done in Release 16.

Nokia: the LS from CT4 asked us to consider, they didn’t request us.

**Decision:** The document was **revised to S3-193057**.

**S3-193057 SID on Storage of Secure Parameters in a 5G system**

*Type: SID new For: Agreement  
 Source: Vodafone España SA*

(Replaces S3-192903)

**Decision:** The document was **agreed**.

## 9 Work Plan and Rapporteur Input

### 9.1 Review of work plan

**S3-192502 SA3 Work Plan**

*Type: Work Plan For: (not specified)  
 Source: MCC*

**Decision:** The document was **noted**.

### 9.2 Rapporteur input on status of WID or SID

**S3-192504 Work Plan input from Rapporteurs**

*Type: other For: (not specified)  
 Source: MCC*

**Decision:** The document was **revised to S3-193202**.

**S3-193202 Work Plan input from Rapporteurs**

*Type: other For: -  
 Source: MCC*

(Replaces S3-192504)

**Decision:** The document was **noted**.

## 10 Future Meeting Dates and Venues

**S3-192503 SA3 meeting calendar**

*Type: other For: (not specified)  
 Source: MCC*

**Decision:** The document was **revised to S3-193199**.

**S3-193199 SA3 meeting calendar**

*Type: other For: -  
 Source: MCC*

(Replaces S3-192503)

**Decision:** The document was **revised to S3-193203**.

**S3-193203 SA3 meeting calendar**

*Type: other For: -  
 Source: MCC*

(Replaces S3-193199)

**Decision:** The document was **noted**.

## 11 Any Other Business

The Chair commented on the agenda for the AdHoc meeting:

Dedicated to studies.

No CRs expected at the adhoc meeting. pCRs for living documents are expected.

MCC clarified that new WIDs would not be able to be agreed in the adhoc. Just preliminary versions could be agreed, but must be brought back to the next SA3 plenary meeting (in Reno) for final agreement.

The Chair announced that there would be elections in the Reno meeting for the vice chair positions.

- Radjavelsamy. R (Samsung) announced his candidature.

- Min Peng (China Mobile) announced his candidature.

The Chair thanked the delegates for a very hard week and EF3 for hosting the meeting.

## Annex A: List of contribution documents

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document | Title | Source | Decision | Replaces | Replaced by |
| S3-192500 | Agenda | WG Chairman | revised |  | S3-192978 |
| S3-192501 | Report from last SA3 meeting/s | MCC | approved |  |  |
| S3-192502 | SA3 Work Plan | MCC | noted |  |  |
| S3-192503 | SA3 meeting calendar | MCC | revised |  | S3-193199 |
| S3-192504 | Work Plan input from Rapporteurs | MCC | revised |  | S3-193202 |
| S3-192505 | Wireline Access Security requirements | BBF | replied to |  |  |
| S3-192506 | LS on Broadcast of Location Assistance Data for NR | S2-1908104 | noted |  |  |
| S3-192507 | Reply LS to Reply LS on protection of PC5-RRC messages for sidelink unicast communication | S2-1908229 | noted |  |  |
| S3-192508 | Reply LS on RRC Connection Re-Establishment for CP for NB-IoT connected to 5GC | S2-1908553 | noted |  |  |
| S3-192509 | Reply LS on DL-only UE-based positioning | S2-1908624 | noted |  |  |
| S3-192510 | Reply LS on Mobile-terminated Early Data Transmission | S2-1908629 | replied to |  |  |
| S3-192511 | Reply LS on authentication of group of IoT devices | S2-1908632 | noted |  |  |
| S3-192512 | LS on withdrawal of TS 103 383 “Smart Cards; Embedded UICC; Requirements Specification” | ETSI TC SCP | replied to |  |  |
| S3-192513 | LS on SG11 activities related to improvement of the SS7 security including for digital financial services | ITU-T SG11 | noted |  |  |
| S3-192514 | Reply LS on Nudr Sensitive Data Protection | SP-190581 | noted |  |  |
| S3-192515 | draftTR33.xxx Storage of sensitive credentials in 5G systems v0.0.1 | Vodafone España SA | noted |  |  |
| S3-192516 | Reply LS on ETSI Plugtest standards issues | S6-191525 | noted |  |  |
| S3-192517 | Issues with encryption of satellite backhaul | TNO, Avanti, iDirect, University of Surrey, SES | noted |  |  |
| S3-192518 | Conclusion for KI#4 | KPN, Huawei, Hisilicon | noted |  |  |
| S3-192519 | Clarifications for Protected MCData | Airbus DS SLC | revised |  | S3-193021 |
| S3-192520 | TCG progress report | InterDigital Communications | noted |  |  |
| S3-192521 | Corrections for TR 33.835 | InterDigital Communications | approved |  |  |
| S3-192522 | 33.836 - solution #1 update | InterDigital Communications | revised |  | S3-193154 |
| S3-192523 | TR 33.836 - update for solution #2 | InterDigital Communications | revised |  | S3-193155 |
| S3-192524 | TR 33.836 - solution #3 update | InterDigital Communications | revised |  | S3-193157 |
| S3-192525 | TR 33.836 solution #4 update | InterDigital Communications | revised |  | S3-193158 |
| S3-192526 | TR 33.819 - DH based solution for CAG ID privacy | InterDigital Communications | revised |  | S3-193135 |
| S3-192527 | TR 33.819 - hash based solution for CAG ID privacy | InterDigital Communications | revised |  | S3-193136 |
| S3-192528 | TR 33.813 - update for solution #11 | InterDigital Communications | revised |  | S3-193124 |
| S3-192529 | TR 33.819 - Update for solution 9 | InterDigital Communications | approved |  |  |
| S3-192530 | Corrections for Definitions and Abbreviations clauses | AT&T, Interdigital, Nokia | not pursued |  |  |
| S3-192531 | Resolving EN in 33855 6.18 N9 NDS/IP | Juniper Networks | withdrawn |  |  |
| S3-192532 | New KI for TR 33.835 - roaming environment | InterDigital Communications | noted |  | - |
| S3-192533 | LS from TC SmartM2M STF547 to 3GPP SA1 Cc SA3 | ETSI TC SmartM2M | noted |  |  |
| S3-192534 | LS on the call for proposals for an internationally agreed Vehicular Multimedia Architecture | ITU-T FG-VM | noted |  |  |
| S3-192535 | 256 bit radio interface algorithm performance | ETSI SAGE | postponed |  |  |
| S3-192536 | Proposal to solve ED notes in solution#4: Zero-overhead user plane integrity protection on the link layer | Philips International B.V. | noted |  |  |
| S3-192537 | New KI for TR 33.835 – environments where a UICC, or a SIM card, is not available to subscribers | InterDigital Communications | noted |  |  |
| S3-192538 | Proposal for editor's note in FS\_CIoT\_sec\_5G solution #15 | Philips International B.V. | approved |  |  |
| S3-192539 | New KI for TR 33.835 – browser environment | InterDigital Communications | noted |  |  |
| S3-192540 | Correction of text on access authentication for untrusted access | BlackBerry UK Limited | revised |  | S3-192979 |
| S3-192541 | TR 33.848 Annex - Administration of Virtualisation | NCSC | revised |  | S3-193088 |
| S3-192542 | TR 33.848 Annex - Virtualisation Security Questions | NCSC | revised |  | S3-193089 |
| S3-192543 | TR 33.848 Clarifications for Section 4 | NCSC | noted |  |  |
| S3-192544 | TR 33.848 Security Threats and Requirements for Key Issue 1 | NCSC | revised |  | S3-193090 |
| S3-192545 | TR 33.848 Security Requirements for Key Issue 3 | NCSC,Nokia | merged |  | S3-193092 |
| S3-192546 | TR 33.848 Security Threats and Requirements for Key Issue 4 | NCSC | revised |  | S3-193093 |
| S3-192547 | TR 33.848 Security Threats and Requirements for Key Issue 5 | NCSC | merged |  | S3-193094 |
| S3-192548 | TR 33.848 Security Threats and Requirements for Key Issue 6 | NCSC | noted |  |  |
| S3-192549 | TR 33.848 Security Threats and Requirements for Key Issue 7 | NCSC | noted |  |  |
| S3-192550 | TR 33.848 Security Threats and Requirements for Key Issue 8 | NCSC | noted |  |  |
| S3-192551 | TR 33.848 Security Threats and Requirements for Key Issue 9 | NCSC | not treated |  |  |
| S3-192552 | TR 33.848 Security Threats and Requirements for Key Issue 10 | NCSC | not treated |  |  |
| S3-192553 | TR 33.848 Security Threats and Requirements for Key Issue 11 | NCSC | not treated |  |  |
| S3-192554 | TR 33.848 Security Threats and Requirements for Key Issue 12 | NCSC | not treated |  |  |
| S3-192555 | TR 33.848 Security Threats and Requirements for Key Issue 13 | NCSC | not treated |  |  |
| S3-192556 | TR 33.848 Security Threats and Requirements for Key Issue 14 | NCSC | not treated |  |  |
| S3-192557 | TR 33.848 Security Threats and Requirements for Key Issue 15 | NCSC | not treated |  |  |
| S3-192558 | TR 33.848 Security Threats and Requirements for Key Issue 16 | NCSC | not treated |  |  |
| S3-192559 | TR 33.848 Security Requirements for Key Issue 17 | NCSC | not treated |  |  |
| S3-192560 | TR 33.848 Security Requirements for Key Issue 18 | NCSC | not treated |  |  |
| S3-192561 | TR 33.848 Security Requirements for Key Issue 19 | NCSC | not treated |  |  |
| S3-192562 | TR 33.848 Security Threats and Requirements for Key Issue 21 | NCSC | not treated |  |  |
| S3-192563 | NAS Count values in the mapped EPS security context in 5GS to EPS change | Qualcomm Incorporated | agreed | S3-191917 |  |
| S3-192564 | Resolving Editor’s Notes and adding conclusion to solution #20 | NEC Corporation | approved |  |  |
| S3-192565 | conclusion for KI #9 | NEC Corporation | noted |  |  |
| S3-192566 | conclusion for KI #15 | NEC Corporation | noted |  |  |
| S3-192567 | Editorial corrections for eV2X SI TR 33.836 v0.3.0 | NEC Corporation | approved |  |  |
| S3-192568 | terminology alignment on groupcast | NEC Corporation | revised |  | S3-193167 |
| S3-192569 | new KI on privacy protection for broadcast | NEC Corporation | revised |  | S3-193162 |
| S3-192570 | new solution on privacy protection for broadcast and groupcast | NEC Corporation | noted |  |  |
| S3-192571 | new solution on privacy protection for unicast | NEC Corporation | revised |  | S3-193159 |
| S3-192572 | new KI on increasing robustness and reliability in L2 ID update procedure | NEC Corporation | noted |  |  |
| S3-192573 | new solution on increasing robustness and reliability in L2 ID update procedure | NEC Corporation | noted |  |  |
| S3-192574 | new KI on minimizing the impact of privacy protection mechanism in the application layer communication | NEC Corporation | revised |  | S3-193164 |
| S3-192575 | new solution on minimizing the impact of privacy protection mechanism in the application layer communication | NEC Corporation | revised |  | S3-193165 |
| S3-192576 | Editorial corrections for SCAS UDM TS 33.514 v0.5.0 | NEC Corporation | approved |  |  |
| S3-192577 | Security for non-public networks | Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | revised |  | S3-193051 |
| S3-192578 | General NDS/IP SEG support for non-SBA interfaces | Juniper Networks | revised |  | S3-193000 |
| S3-192579 | Minor corrections to 33163 | Juniper Networks | revised |  | S3-193061 |
| S3-192580 | Minor corrections to 33163 | Juniper Networks | revised |  | S3-193062 |
| S3-192581 | Add a new Annex for the authentication of non-5GC NAS capable devices in WWC | CableLabs, Charter Communications, Nokia, Nokia Shanghai Bell, Lenovo, Motorola Mobility, Ericsson, Comcast, Rogers Communications | revised |  | S3-193054 |
| S3-192582 | Discussion paper on MT EDT LS from SA2 | Nokia, Nokia Shangahi Bell | noted |  |  |
| S3-192583 | Addressing EN in PARLOS Evaluation clause 7.2.3 | Nokia, Nokia Shangahi Bell | revised |  | S3-193118 |
| S3-192584 | Update to Solution 8 protecting NSSAI in AS layer | Nokia, Nokia Shanghai Bell, Ericsson | revised |  | S3-193122 |
| S3-192585 | FBS add text to evaluation clause 6.7.3 | Nokia, Nokia Shanghai Bell | not treated |  |  |
| S3-192586 | Summary of updates to S3-192276 from last meeting | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-192587 | Definition of authentication subscription data and update to UDM requirement | Nokia, Nokia Shanghai Bell | revised | S3-191986 | S3-192987 |
| S3-192588 | Requirement on UDR | Nokia, Nokia Shanghai Bell | not pursued | S3-192053 |  |
| S3-192589 | Missing UDR description in alignment with 29.505 | Nokia, Nokia Shanghai Bell | revised | S3-192054 | S3-192988 |
| S3-192590 | Update on ARPF | Nokia, Nokia Shanghai Bell | revised | S3-192055 | S3-192989 |
| S3-192591 | Adding Nudr service | Nokia, Nokia Shanghai Bell | not pursued | S3-192056 |  |
| S3-192592 | Security for non-public networks - update to S3-192453 | Qualcomm, Nokia, Nokia Shanghai Bell | revised |  | S3-193049 |
| S3-192593 | Endorsement of CR on Non-public network security | Qualcomm, Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-192594 | TR33.819 update as baseline - editorial | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-192595 | Adding intro to 33.819 | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-192596 | TSC update | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-192597 | TSC key issue on time synchronization | Nokia, Nokia Shanghai Bell | revised |  | S3-193133 |
| S3-192598 | Secure device identity creation for UEs in SNPNs | Nokia, Nokia Shanghai Bell, Perspecta Labs, Interdigital | noted |  |  |
| S3-192599 | Key issue on Secure device identity creation for constrained devices | Nokia, Nokia Shanghai Bell, Perspecta Labs, Interdigital | revised |  | S3-193193 |
| S3-192600 | Way forward on CVD and research | CableLabs, BT, Nokia | noted | S3-191623 |  |
| S3-192601 | Living Document: General SBA/SBI aspects in TS 33.117 | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-192602 | Living Document: New Annex for the SEPP in TR 33.926 | Nokia, Nokia Shanghai Bell | revised |  | S3-193138 |
| S3-192603 | Living Document: New Annex for the NRF in TR 33.926 | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-192604 | Reply LS on Wireline Access Security Requirements | CableLabs | revised |  | S3-192981 |
| S3-192605 | New WID on Security aspects of enhancements to the Service-Based 5G System Architecture | Nokia, Nokia Shanghai Bell | revised |  | S3-193055 |
| S3-192606 | eSBA: pCR to update Solution #21 | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-192607 | eSBA: pCR to update Evaluation of Solution #21 | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-192608 | eSBA: pCR to update Evaluation of Solution #26 | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-192609 | eSBA: pCR to update Evaluation of Solution #16 | Nokia, Nokia Shanghai Bell | revised |  | S3-193064 |
| S3-192610 | eSBA: Add conclusion on KI #20 | Nokia, Nokia Shanghai Bell | revised |  | S3-193077 |
| S3-192611 | eSBA: Add conclusion on KI #26 | Nokia, Nokia Shanghai Bell | revised |  | S3-193081 |
| S3-192612 | eSBA: Add conclusion on KI #22 | Nokia, Nokia Shanghai Bell | merged |  | S3-193070 |
| S3-192613 | eSBA: Add conclusion on KI #29 | Nokia, Nokia Shanghai Bell | revised |  | S3-193099 |
| S3-192614 | eSBA: Add conclusion on KI #23 | Nokia, Nokia Shanghai Bell | revised |  | S3-193174 |
| S3-192615 | Discussion on registration with AMF re-allocation | ZTE Corporation | noted |  |  |
| S3-192616 | Discussion on Identity Request with AMF re-allocation | ZTE Corporation | noted |  |  |
| S3-192617 | Security for registration with AMF re-allocation | ZTE Corporation | not pursued |  |  |
| S3-192618 | LS on registration and identity request issues with AMF re-allocation | ZTE Corporation | noted |  |  |
| S3-192619 | Security solution for CAG | ZTE Corporation | approved |  |  |
| S3-192620 | Assessment and evaluation of solution #9 | ZTE Corporation | not treated |  |  |
| S3-192621 | Structure RAND for authentication | ZTE Corporation | not treated |  |  |
| S3-192622 | Handling of Sync failure | ZTE Corporation | revised |  | S3-193189 |
| S3-192623 | Conclusion on linkability issues | ZTE Corporation | not treated |  |  |
| S3-192624 | Correcting references | ZTE Corporation | revised |  | S3-192990 |
| S3-192625 | Removing editor notes | ZTE Corporation | revised |  | S3-192991 |
| S3-192626 | Adding abbreviation | ZTE Corporation | revised |  | S3-193025 |
| S3-192627 | Solution on privacy protection of NSSAI | ZTE Corporation | revised |  | S3-193125 |
| S3-192628 | eSBA: Add conclusion on KI #24 | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-192629 | eSBA: Add conclusion on KI #27 | Nokia, Nokia Shanghai Bell | revised |  | S3-193095 |
| S3-192630 | Discussion on the handling of native non-current 5G NAS security context after an inter-system change from S1 mode to N1 mode in idle mode | Intel Deutschland GmbH | endorsed |  |  |
| S3-192631 | Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility | Intel Deutschland GmbH | revised |  | S3-192997 |
| S3-192632 | Add missing message flow for Procedure for steering of UE | Intel Deutschland GmbH | revised |  | S3-193060 |
| S3-192633 | Security solution for UE to avoid connecting to the false base station during a handover procedure | Intel Deutschland GmbH | not treated |  |  |
| S3-192634 | eV2X: New solution for Security for eV2X unicast messages over PC5 | Intel Deutschland GmbH | revised |  | S3-193160 |
| S3-192635 | Categorization of the test cases and other editorial corrections | Nokia, Nokia Shanghai Bell | revised |  | S3-193003 |
| S3-192636 | WID of 5GFBS | Apple | revised |  | S3-192994 |
| S3-192637 | Conclusin of key issue#2 | Apple | noted |  |  |
| S3-192638 | Update for Solution#7 | Apple | not treated |  |  |
| S3-192639 | Evaluation for solution#14 | Apple | not treated |  |  |
| S3-192640 | 5G paging security issue caused by false base station | Apple | not treated |  |  |
| S3-192641 | solution for new key issue of 5G paging security issue caused by false base station | Apple | not treated |  |  |
| S3-192642 | Protection of UeapabilityInformation | Apple | not treated |  |  |
| S3-192643 | Update of Solution#11 | Apple | not treated |  |  |
| S3-192644 | Meeting minutes of 5GFBS July conference call on July 18th | Apple | not treated |  |  |
| S3-192645 | Meeting minutes of 5GFBS August conference call on August 8th | Apple | not treated |  |  |
| S3-192646 | Discussion on 5G UE privacy when connecting to EPC | Apple | not treated |  |  |
| S3-192647 | Update to Key issue#5 in UP IP | Apple | revised |  | S3-193143 |
| S3-192648 | Solution to key issue#5 in UP IP | Apple | noted |  |  |
| S3-192649 | Update to Key issue#5 in eV2X | Apple | noted |  |  |
| S3-192650 | EAP-AKA privacy enhancement in non-3GPP access to EPS | Apple | revised |  | S3-192995 |
| S3-192651 | Proposal for Key Issue#1 Conclusion | Philips International B.V. | noted |  |  |
| S3-192652 | Additional Critical Assets and Threats to PGW Annex R16 | Nokia, Nokia Shanghai Bell | revised |  | S3-193033 |
| S3-192653 | Additional Critical Assets and Threats to PGW Annex R15 | Nokia, Nokia Shanghai Bell | revised |  | S3-193031 |
| S3-192654 | Adding Threat References to PGW Test Cases R15 | Nokia, Nokia Shanghai Bell | revised |  | S3-193035 |
| S3-192655 | Discussion Document on how to use BEST as a bearer for services and as a means to provide multiple secure channels over 1 bearer | Vodafone España SA | noted |  |  |
| S3-192656 | pCR to TR33.935 - Addition of Diffie - Helman Key agreements section | Vodafone España SA | withdrawn |  |  |
| S3-192657 | Threat analysis on misplacement of encrypted IE in JSON object by IPX | Nokia, Nokia Shanghai Bell | revised |  | S3-193085 |
| S3-192658 | Test Case: No misplacement of encrypted IE in JSON object by IPX | Nokia, Nokia Shanghai Bell | revised |  | S3-193086 |
| S3-192659 | pCR to 33.853 - addition of solution for LTE | Vodafone España SA | revised |  | S3-193144 |
| S3-192660 | Add the missing expected format of evidence | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-192661 | WID for LTE normative work for UPIP | Vodafone España SA | noted |  |  |
| S3-192662 | CR to 33.401 - Addition of User Plane Integrity Protection | Vodafone España SA | withdrawn |  |  |
| S3-192663 | 33.846: mitigation against linkability attack | THALES | not treated |  |  |
| S3-192664 | Discussion on the conclusion of AKMA architecture and authentication procedures | China Mobile M2M Company Ltd. | withdrawn |  |  |
| S3-192665 | IAB-node: terminology change | THALES, ORANGE | revised |  | S3-193148 |
| S3-192666 | Update to TR33.xxx Storage of Secure Parameters in a 5G system - addition of content to section 4 | Vodafone España SA | withdrawn |  |  |
| S3-192667 | Update to TR33.xxx Storage of Secure Parameters in a 5G system - addition of content to section 5 | Vodafone España SA | withdrawn |  |  |
| S3-192668 | Removing references of TS 103 383 in TS 35.231 | Orange | revised |  | S3-192982 |
| S3-192669 | Removing references of TS 103 383 in TS 35.231 | Orange | revised |  | S3-192983 |
| S3-192670 | Update to TR33.xxx Storage of Secure Parameters in a 5G system - addition of KI - Long term key leakage | Vodafone España SA | withdrawn |  |  |
| S3-192671 | Removing references of TS 103 383 in TS 35.231 | Orange | revised |  | S3-192984 |
| S3-192672 | Removing references of TS 103 383 in TS 35.231 | Orange | revised |  | S3-192985 |
| S3-192673 | Update to TR33.xxx Storage of Secure Parameters in a 5G system - addition of KI - discovery of correct privacy service | Vodafone España SA | withdrawn |  |  |
| S3-192674 | Conclusion on AKMA architecture and authentication procedure | China Mobile M2M Company Ltd. | withdrawn |  |  |
| S3-192675 | Discussion on the conclusion of AKMA architecture and authentication procedures | China Mobile, Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-192676 | Complete the Evaluation for Solution #4 | Nokia, Nokia Shanghai Bell | revised |  | S3-193127 |
| S3-192677 | Conclusion on AKMA architecture and authentication procedure | China Mobile, Nokia, Nokia Shanghai Bell | revised |  | S3-193170 |
| S3-192678 | Conclusion on Key Issue #4 | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-192679 | Key issue to mitigate the SUPI guessing attacks | China Mobile | withdrawn |  |  |
| S3-192680 | Key issue to mitigate the SUPI guessing attacks | China Mobile | noted |  |  |
| S3-192681 | A Solution for Key Isssue#2.1 and key issue #4.1 in TR 33.846 | China Mobile | revised |  | S3-193190 |
| S3-192682 | Description of issue of security context transfer following the handover from EPS to 5GS | Huawei, Hisilicon | noted |  |  |
| S3-192683 | Security context transfer following the handover from EPS to 5GS | Huawei, Hisilicon | revised |  | S3-192998 |
| S3-192684 | New solution for linkability attack | Huawei, Hisilicon | not treated |  |  |
| S3-192685 | Resolving the ENs in solution #5 | Huawei, Hisilicon, Lenovo, Motorola Mobility | not treated |  |  |
| S3-192686 | Conclusion on KI#5 of TR 33.809 | Huawei, Hisilicon | not treated |  |  |
| S3-192687 | Update of solution #15 in TR 33.855 | Huawei, Hisilicon | revised |  | S3-193097 |
| S3-192688 | Dealing with the EN of solution #19 in TR33.855 | Huawei, Hisilicon | approved |  |  |
| S3-192689 | New solution for authorization within a NF Set in the roaming scenario | Huawei, Hisilicon | approved |  |  |
| S3-192690 | Solution for CAG ID protection | Huawei, Hisilicon | revised |  | S3-193141 |
| S3-192691 | Resolving the EN in AKMA push, and adding the evaluation | Huawei, Hisilicon | not treated |  |  |
| S3-192692 | Key issue on the authenticaiton result storage in the UDM | Huawei, Hisilicon | revised |  | S3-193187 |
| S3-192693 | Resolving the ENs in Solution #25 | Huawei, Hisilicon | revised |  | S3-193100 |
| S3-192694 | eSBA: new solution for NF service consumer verification during service access authorization in indirect communication scenario | Huawei, Hisilicon | revised |  | S3-193069 |
| S3-192695 | New KI: Key issue on UP security policy handling for PC5 and Uu interface | Huawei, Hisilicon | revised |  | S3-193166 |
| S3-192696 | UDM critical assets and threats to TR 33.926 | Huawei, Hisilicon | revised |  | S3-193008 |
| S3-192697 | Editorial change on TS 33.514 | Huawei, Hisilicon | approved |  |  |
| S3-192698 | AUSF critical assets and threats to TR 33.926 | Huawei, Hisilicon | revised |  | S3-193016 |
| S3-192699 | Editorial change on TS 33.516 | Huawei, Hisilicon | approved |  |  |
| S3-192700 | Editorial changes on SEPP critical assets and threats to TR 33.926 | Huawei, Hisilicon | revised |  | S3-193139 |
| S3-192701 | Editorial change on TS 33.517 | Huawei, Hisilicon | approved |  |  |
| S3-192702 | Adding NRF critical assets and threats to TR 33.926 | Huawei, Hisilicon | revised |  | S3-193020 |
| S3-192703 | Editorial change on TS 33.518 | Huawei, Hisilicon | approved |  |  |
| S3-192704 | Adding NEF critical assets and threats to TR 33.926 | Huawei, Hisilicon | revised |  | S3-193027 |
| S3-192705 | Adding critical assets and threats for general NFs to TR 33.926 | Huawei, Hisilicon | revised |  | S3-193030 |
| S3-192706 | Update of living Document: General SBA/SBI aspects in TS 33.117 | Huawei, Hisilicon | revised |  | S3-193029 |
| S3-192707 | Clarification on test cases in TR 33.117 | Huawei, Hisilicon | revised |  | S3-193036 |
| S3-192708 | Clarification on the topology hiding in SBI | Huawei, Hisilicon | not pursued |  |  |
| S3-192709 | Claification on UE context transfer in registration with AMF reallocation via direct NAS reroute | Huawei, Hisilicon | revised |  | S3-193058 |
| S3-192710 | Solving registration failure in registration procedure with AMF reallocation | Huawei, Hisilicon, CAICT | not pursued |  |  |
| S3-192711 | Discussing registration failure in registration procedure with AMF reallocation | Huawei, Hisilicon, CAICT | noted |  |  |
| S3-192712 | Adding SMF critical assets and threats to TS 33.926 | Huawei, Hisilicon | revised |  | S3-193012 |
| S3-192713 | Editorial change on TS 33.515 | Huawei, Hisilicon | revised |  | S3-193013 |
| S3-192714 | Adding AMF critical assets and threats to TS 33.926 | Huawei, Hisilicon | revised |  | S3-193005 |
| S3-192715 | Adding UPF critical assets and threats to TS 33.926 | Huawei, Hisilicon | revised |  | S3-193006 |
| S3-192716 | Editorial change on TS 33.513 | Huawei, Hisilicon | approved |  |  |
| S3-192717 | Changes on handover from 5GS to EPS over N26 | Huawei, Hisilicon | revised |  | S3-192999 |
| S3-192718 | Adding evalution to solution 3 | Huawei, HiSilicon | noted |  |  |
| S3-192719 | Conclusions to KI #3 | Huawei, HiSilicon | noted |  |  |
| S3-192720 | Addressing EN in solution 6 | Huawei, HiSilicon | revised |  | S3-193120 |
| S3-192721 | Adding evalution to solution 6 | Huawei, HiSilicon | noted |  |  |
| S3-192722 | Addressing ENs in solution 8 | Huawei, HiSilicon | noted |  |  |
| S3-192723 | Conclusions to KI #6 | Huawei, HiSilicon | noted |  |  |
| S3-192724 | Amendment to eNS WID | Huawei, HiSilicon | noted |  |  |
| S3-192725 | Conclusions to KI #4 | Huawei, HiSilicon | noted |  |  |
| S3-192726 | Slice-specific authentication | Huawei, HiSilicon | noted |  |  |
| S3-192727 | Solution on Cross-RAT PC5 control authorization indication | Huawei, HiSilicon | approved |  |  |
| S3-192728 | Resolving the Editor's note for Solution 5 in TR 33.853 | China Mobile | revised |  | S3-193145 |
| S3-192729 | Resolve EN "signaling details of how the UE hands over to false base station | Huawei, HiSilicon | not treated |  |  |
| S3-192730 | Resolve the second and third EN in Solution #6 | Huawei, HiSilicon | not treated |  |  |
| S3-192731 | Solution#4: resolving EN network verification of the hashes of MIB/SIBs | Huawei, HiSilicon | not treated |  |  |
| S3-192732 | Solution#4: Resolving EN Impact on UE power consumption | Huawei, HiSilicon | not treated |  |  |
| S3-192733 | Solution #4: Details on the hash algorithm used for MIB/SIB hashes. | Huawei, HiSilicon | not treated |  |  |
| S3-192734 | Address EN in solution #1 | Huawei, HiSilicon | not treated |  |  |
| S3-192735 | Enabling UE to detect FBS | Huawei, HiSilicon | not treated |  |  |
| S3-192736 | preventing the UE from reselecting to the false base station | Huawei, HiSilicon | not treated |  |  |
| S3-192737 | Avoiding UE from Suffering More MitM Attacks by Handover | Huawei, HiSilicon | not treated |  |  |
| S3-192738 | Evaluation of solution #6 | Huawei, HiSilicon | not treated |  |  |
| S3-192739 | LS to RAN2 on FBS detection | Huawei, HiSilicon | revised |  | S3-193175 |
| S3-192740 | Conclustion for Key issue #3 | Huawei, HiSilicon | not treated |  |  |
| S3-192741 | V2X Group Key Provisioning | Lenovo, Motorola Mobility | revised |  | S3-193163 |
| S3-192742 | Removal of Editor’s Notes of solution #5 | Lenovo, Motorola Mobility | noted |  |  |
| S3-192743 | Update of Solution #15 | Lenovo, Motorola Mobility | not treated |  |  |
| S3-192744 | New Key Issue on Rejected S-NSSAI Revokation | Lenovo, Motorola Mobility | revised |  | S3-193201 |
| S3-192745 | Solution on Slice Authentication Revokation | Lenovo, Motorola Mobility | noted |  |  |
| S3-192746 | User ID privacy | Lenovo, Motorola Mobility, Huawei | noted |  |  |
| S3-192747 | Clarification in Solution 12 | Huawei, Hisilicon | revised |  | S3-192967 |
| S3-192748 | The solution to protect MIB/SIB information | Huawei, Hisilicon | revised |  | S3-192968 |
| S3-192749 | Key issue on removal of USIM card in IAB node | Huawei, Hisilicon | revised |  | S3-192969 |
| S3-192750 | Proposed solution on protecting the SQN during a re-synchronisation procedure in AKA | Huawei, Hisilicon | revised |  | S3-192970 |
| S3-192751 | conclusion on KI#4 | Huawei, Hisilicon | revised |  | S3-192971 |
| S3-192752 | mitigate the linkability attack | Huawei, Hisilicon | revised |  | S3-192972 |
| S3-192753 | Implicite AKMA authenticaiton procedure | Huawei, Hisilicon | not treated |  |  |
| S3-192754 | Address two Editor’s Note of solution 4 | Huawei, Hisilicon | revised |  | S3-193109 |
| S3-192755 | Address two Editor’s Note of solution 6 | Huawei, Hisilicon | approved |  |  |
| S3-192756 | Address an Editor’s Note and add evaluation for solution 7 | Huawei, Hisilicon | noted |  | - |
| S3-192757 | Add evaluation for solution 8 | Huawei, Hisilicon | approved |  |  |
| S3-192758 | Add conclusion for KI#2 | Huawei, Hisilicon | revised |  | S3-193112 |
| S3-192759 | completing TR 33807 | Huawei, Hisilicon | approved |  |  |
| S3-192760 | skeleton of 5WWC | Huawei, Hisilicon | revised |  | S3-193053 |
| S3-192761 | Update testcase of 4.2.4.1.1.2 and 4.2.4.1.1.3 | Huawei, Hisilicon | agreed |  |  |
| S3-192762 | Update test cases for 4.3.2.3,4.3.2.4, and 4.3.2.5 | Huawei, Hisilicon | not pursued |  |  |
| S3-192763 | Update requirements and test cases for gNB SCAS | Huawei, Hisilicon | revised |  | S3-193004 |
| S3-192764 | Update requirements and test cases for eNB SCAS | Huawei, Hisilicon | revised |  | S3-193041 |
| S3-192765 | Completing 33825 | Huawei, Hisilicon | approved |  |  |
| S3-192766 | draftCR for URLLC | Huawei, Hisilicon | revised |  | S3-193048 |
| S3-192767 | Discussion on security of MSG2 MT-EDT solution | Huawei, Hisilicon | noted |  |  |
| S3-192768 | Reply LS on Security of MT-EDT | Huawei, Hisilicon | noted |  |  |
| S3-192769 | Address EN in key issue 13 and solution 20 | Huawei, Hisilicon | revised |  | S3-193102 |
| S3-192770 | Conclusion for Key Issue #13 | Huawei, Hisilicon | revised |  | S3-193108 |
| S3-192771 | Address EN in solution 21 | Huawei, Hisilicon | approved |  |  |
| S3-192772 | Conclusion for Key Issue #11 | Huawei, Hisilicon | noted |  |  |
| S3-192773 | Address EN in solution 19 | Huawei, Hisilicon | revised |  | S3-193105 |
| S3-192774 | Discussion on Mitigation of DDoS attack | Huawei, Hisilicon | noted |  |  |
| S3-192775 | Security handling in Control Plane User Data for Control Plane Optimization for 5GS CIoT | Huawei, Hisilicon | noted |  |  |
| S3-192776 | Protection of Non-IP Data Delivery (NIDD) interfaces | Huawei, Hisilicon | approved |  |  |
| S3-192777 | Clarification for Secondary Authentication | Huawei, Hisilicon | revised |  | S3-192993 |
| S3-192778 | Wayforward for TR 33.809 | Huawei, Hisilicon | noted |  |  |
| S3-192779 | Discussion on Conclusion for Protection of RRC Reject message | Huawei, Hisilicon | noted |  |  |
| S3-192780 | Address EN in solution 16 | Huawei, Hisilicon | not treated |  |  |
| S3-192781 | Conclusion for Key Issue #1 for RRC Reject | Huawei, Hisilicon | noted |  |  |
| S3-192782 | LS to RAN2 on Protection of RRC Reject Message | Huawei, Hisilicon | not treated |  |  |
| S3-192783 | Update on Protection of RRC Resume Request message | Huawei, Hisilicon | noted |  |  |
| S3-192784 | Conclusion for Key Issue #1 for RRC Resume Request Protection | Huawei, Hisilicon | noted |  |  |
| S3-192785 | Solution for Protection of NAS Reject Message | Huawei, Hisilicon | noted |  |  |
| S3-192786 | Conclusion for Key Issue #1 for NAS Reject | Huawei, Hisilicon | noted |  |  |
| S3-192787 | Solution for Avoiding UE connecting to False Base Station during Conditional Handover | Huawei, Hisilicon | not treated |  |  |
| S3-192788 | Resovle Editor's notes in Solution for Key freshness in AKMA | Huawei, Hisilicon | revised |  | S3-193171 |
| S3-192789 | Mitigate DDoS Attack on RAN based on RAN coordination | Huawei, Hisilicon | revised |  | S3-193106 |
| S3-192790 | conclusion on KI#5 | Huawei, Hisilicon | noted |  |  |
| S3-192791 | conclusion on KI#2 | Huawei, Hisilicon | noted |  |  |
| S3-192792 | Discussion on the procedure of secondary authentication | China Mobile | not pursued |  |  |
| S3-192793 | Modification of the message name in the key derivation during handover | CATT | not pursued |  |  |
| S3-192794 | Adjust the proceudure of GPSI and IP/MAC notification | China Mobile | revised |  | S3-192992 |
| S3-192795 | Conclusion for KI#7 and KI#8 | Ericsson | approved |  |  |
| S3-192796 | Removal of EN in Solution #7 | Ericsson | approved |  |  |
| S3-192797 | Conclusion on KI#15 | Ericsson | revised |  | S3-193192 |
| S3-192798 | Conclusion on KI#9 | Ericsson | approved |  |  |
| S3-192799 | Editorial changes to Solution #7 | Ericsson | approved |  |  |
| S3-192800 | Evaluation of Solution #7 | Ericsson | approved |  | - |
| S3-192801 | New Solution for a UE connected to 5GC indicating its support of UP IP over eUTRA | Ericsson | revised |  | S3-193146 |
| S3-192802 | Update of Solution #23 (Token-based authorization for Scenario D using stateless SeCoP) | Ericsson | approved |  |  |
| S3-192803 | Update of Solution #24 (Token-based authorization for Scenario C using stateless SeCoP) | Ericsson | revised |  | S3-193067 |
| S3-192804 | Evaluation for Solution #23 (Token-based authorization for Scenario D using stateless SeCoP) | Ericsson | revised |  | S3-193066 |
| S3-192805 | Evaluation for Solution #24 (Token-based authorization for Scenario C using stateless SeCoP) | Ericsson | revised |  | S3-193068 |
| S3-192806 | Conclusion of Key Issue #22 (Authorization of NF service access in indirect communication) | Ericsson | revised |  | S3-193070 |
| S3-192807 | New solution: Telescopic FQDN for the SeCoP | Ericsson | revised |  | S3-193075 |
| S3-192808 | New solution: Token-based authorization for NF Sets / NF Service Sets by existing methods | Ericsson | revised |  | S3-193079 |
| S3-192809 | Conclusion of Key Issue #24 (Service access authorization within a NF Set or a NF Service Set) | Ericsson | noted |  |  |
| S3-192810 | Conclusion of Key Issue #26: Protection of N9 interface | Ericsson | merged |  | S3-193081 |
| S3-192811 | Update of Key issue #26: Protection of N9 interface | Ericsson | approved |  |  |
| S3-192812 | Conclusion of Key Issue #28: Service access authorization in the delegated "Subscribe-Notify" scenarios | Ericsson | noted |  |  |
| S3-192813 | Conclusion of Key Issue #20: Protection of SeCoP interfaces | Ericsson | noted |  |  |
| S3-192814 | Conclusion of Key Issue #21: Secure message transport via the SeCoP | Ericsson | revised |  | S3-193078 |
| S3-192815 | New solution: Authorization between Network Functions in Scenario D | Ericsson | approved |  |  |
| S3-192816 | Conclusion of Key Issue #23: NF to NF authentication and authorization in Indirect communication | Ericsson | merged |  | S3-193174 |
| S3-192817 | New Solution: resource level authorization using access tokens | Ericsson | revised |  | S3-193098 |
| S3-192818 | UP Gateway deployments | Ericsson | revised |  | S3-193082 |
| S3-192819 | ARPF Deployment models | Ericsson | not treated |  |  |
| S3-192820 | Security Parameter Storage | Ericsson | not treated |  |  |
| S3-192821 | Privacy Aspects of ARPF deployment | Ericsson | not treated |  |  |
| S3-192822 | Draft CR as a living baseline for 5GS LCS normative work | Ericsson | noted |  |  |
| S3-192823 | Test cases referring to TS 33.117 | Ericsson | not pursued |  | S3-193001 |
| S3-192824 | Test cases referring to TS 33.117 | Ericsson | approved |  | - |
| S3-192825 | IAB: Assumptions related to key hierarchy in IAB architecture in 5G | Ericsson | revised |  | S3-193150 |
| S3-192826 | KI #2.3: security threats and potential requirements | Ericsson | revised |  | S3-193153 |
| S3-192827 | New solution: secure recovery from backhaul-RLF | Ericsson | noted |  |  |
| S3-192828 | New WID on security of the enhancement to the 5GC location services | CATT | revised |  | S3-193056 |
| S3-192829 | Modification of solution#1 | China Mobile | noted |  |  |
| S3-192830 | New WID on security aspect of network analytic services | China Mobile M2M Company Ltd. | noted |  |  |
| S3-192831 | Discussion on study on user plane security termination point in 5GC | CATT | withdrawn |  |  |
| S3-192832 | Adding gap analysis into clause 4.3.1 | China Mobile | approved |  |  |
| S3-192833 | Correction to test case requirement reference | L.M. Ericsson Limited | agreed |  |  |
| S3-192834 | Adding contents into clause 4.4 | China Mobile | approved |  |  |
| S3-192835 | Adding contents into clause 4.5 | China Mobile | approved |  |  |
| S3-192836 | Resolving editor’s note and adding example of role instantiation into clause 4.6 | China Mobile | approved |  |  |
| S3-192837 | Adding contents into clause 4.7 | China Mobile | approved |  |  |
| S3-192838 | Adding contents into clause 4.8 | China Mobile | revised |  | S3-193181 |
| S3-192839 | Adding contents into clause 4.8 | China Mobile M2M Company Ltd. | approved |  |  |
| S3-192840 | Adding writing process overview into clause 5.1 | China Mobile M2M Company Ltd. | approved |  |  |
| S3-192841 | Adding the description of the parts in SCAS documents and ToE into clause 5.2.1 and 5.2.2 | China Mobile M2M Company Ltd. | revised |  | S3-193182 |
| S3-192842 | Adding the description of Generic Vitualized Network Product model of type 1 | China Mobile | revised |  | S3-193183 |
| S3-192843 | Adding the description for generic virtualized network product model of type 2 | China Mobile M2M Company Ltd. | revised |  | S3-193184 |
| S3-192844 | Adding the description for generic virtualized network product model of type 3 | China Mobile | not treated |  |  |
| S3-192845 | Adding SPD for virtualized network products into clause 5.2.3 | China Mobile M2M Company Ltd. | not treated |  |  |
| S3-192846 | Adding Generic assets and threats of GVNP for type 2 into clause 5.2.3.3 | China Mobile | not treated |  |  |
| S3-192847 | Adding Generic assets and threats of GVNP for type 3 into clause 5.2.3.4 | China Mobile | not treated |  |  |
| S3-192848 | Adding evaluation to Solution 7 | Ericsson | revised |  | S3-193121 |
| S3-192849 | Discussion on AUSF role | Ericsson | noted |  |  |
| S3-192850 | Draft LS on AUSF role | Ericsson | revised |  | S3-193126 |
| S3-192851 | Conclusion on KI#6 | Ericsson, Nokia | noted |  |  |
| S3-192852 | Reference syntax updates | Ericsson | approved |  |  |
| S3-192853 | Conclusion on key issue #2 | China Mobile | not treated |  |  |
| S3-192854 | Evaluation of solution #6 | China Mobile M2M Company Ltd. | not treated |  |  |
| S3-192855 | Evaluation of solution#1 | China Mobile M2M Company Ltd. | not treated |  |  |
| S3-192856 | Evaluations of solution #7- #12 | China Mobile | not treated |  |  |
| S3-192857 | [DRAFT] Reply LS on Mobile-terminated Early Data Transmission | Ericsson | noted |  |  |
| S3-192858 | Disucssion on security of MT-EDT | Ericsson | noted |  |  |
| S3-192859 | New WID on Authentication and Key Management for Applications based on 3GPP credential in 5G | China Mobile | revised |  | S3-193178 |
| S3-192860 | Resolving EN in 33855 6.18 N9 NDS/IP | Juniper Networks | noted |  |  |
| S3-192861 | Security of RRC UE capability transfer procedure in EPS | Ericsson | revised |  | S3-193074 |
| S3-192862 | Security of RRC UE capability transfer procedure in 5GS | Ericsson | agreed |  |  |
| S3-192863 | Way forward - KI#1 Proposal#1 UE caps | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Samsung, Apple | revised |  | S3-193173 |
| S3-192864 | Way forward - KI#1 Proposal#2 RRC reject | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Apple | noted |  |  |
| S3-192865 | Way forward - KI#1 Proposal#3 RRC Resume | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Apple | noted |  |  |
| S3-192866 | Way forward - KI#2 Proposal#4 SI protection | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, AT&T, NIST, CATT, China Unicom, Apple, Samsung | noted |  | - |
| S3-192867 | Way forward - KI#3 Proposal#5 False RBS detection | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics | noted |  |  |
| S3-192868 | Way forward - KI#3 Proposal#6 False RBS handover | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Samsung | not treated |  |  |
| S3-192869 | Way forward - KI#4 Proposal#7 SON poisoining | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics | not treated |  |  |
| S3-192870 | Way forward - KI#5 Proposal#8 Auth replay | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Samsung, Apple | not treated |  |  |
| S3-192871 | Way forward - KI#6 Proposal#9 radio jamming | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Apple, Samsung | not treated |  |  |
| S3-192872 | Way forward - KI#7 Proposal#10 MitM | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Samsung | not treated |  |  |
| S3-192873 | Introduction to URLLC services | Ericsson | merged |  | S3-193048 |
| S3-192874 | Retaining AS security keys for redundant data transmission in user plane | Ericsson | noted |  |  |
| S3-192875 | Redundant paths using Dual Connectivity for URLLC services - introduction | Ericsson | merged |  | S3-193048 |
| S3-192876 | Redundant paths using Dual Connectivity for URLLC services – security keys derivation | Ericsson | merged |  | S3-193048 |
| S3-192877 | Redundant paths using Dual Connectivity for URLLC services - security policy aspects | Ericsson | merged |  | S3-193048 |
| S3-192878 | Redundant paths using Dual Connectivity for URLLC services – UP security activation status | Ericsson | merged |  | S3-193048 |
| S3-192879 | New KI: Security of session anchor keys in case the long-term key is leaked | Ericsson | noted |  |  |
| S3-192880 | New Solution:EAP-AKA´ PFS | Ericsson | noted |  |  |
| S3-192881 | New solution: Integrating GBA to 5GC | Ericsson, Vodafone | not treated |  |  |
| S3-192882 | New conclusions for GBA in 5GC | Ericsson, Vodafone | not treated |  |  |
| S3-192883 | Work item on integrating GBA to 5GC | Ericsson, Vodafone | revised |  | S3-193200 |
| S3-192884 | Evaluation of solution 13 | Ericsson | approved |  |  |
| S3-192885 | Solution #15 updates including evaluation update | Ericsson | revised |  | S3-193169 |
| S3-192886 | Conclusion for AKMA architecture and authentication | Ericsson | noted |  |  |
| S3-192887 | Discussion about AMF re-allocation and slicing | Ericsson | noted |  |  |
| S3-192888 | AMF re-allocation and slicing | Ericsson | not pursued |  |  |
| S3-192889 | LS on AMF reallocation between Network Slices | Ericsson | noted |  |  |
| S3-192890 | Threats and Requirements for Key Issue #2 | Nokia, Nokia Shanghai Bell | revised |  | S3-193091 |
| S3-192891 | Threats and Requirements for Key Issue #3 | Nokia, Nokia Shanghai Bell | revised |  | S3-193092 |
| S3-192892 | Threats and Requirements for Key Issue #4 | Nokia, Nokia Shanghai Bell | merged |  | S3-193093 |
| S3-192893 | Conclusion on KI#5 | Ericsson, Qualcomm Incorporated | noted |  |  |
| S3-192894 | Conclusion on KI#4 | Ericsson, Qualcomm Incorporated | noted |  |  |
| S3-192895 | Evaluation to Sol#4 | Ericsson, Intel | revised |  | S3-193104 |
| S3-192896 | Conclusion on KI#2 | Ericsson, Qualcomm Incorporated, Intel | approved |  |  |
| S3-192897 | CIOT: New solution for UP IP in PDCP to protect UL EDT data in Msg3 | Ericsson, Qualcomm Incorporated,Intel | approved |  |  |
| S3-192898 | CIOT: New solution for protection of NAS Redirection message | Ericsson | revised |  | S3-193107 |
| S3-192899 | Threats and Requirements for Key Issue #5 | Nokia, Nokia Shanghai Bell | revised |  | S3-193094 |
| S3-192900 | Threats and Requirements for Key Issue #8 | Nokia, Nokia Shanghai Bell | not treated |  |  |
| S3-192901 | Threats and Requirements for Key Issue #13 | Nokia, Nokia Shanghai Bell | not treated |  |  |
| S3-192902 | Resolving Editor’s Note in Solution #1 | Samsung | noted |  |  |
| S3-192903 | SID on Rel16 onwards Storage of Secure Parameters in a 5G system | Vodafone España SA | revised |  | S3-193057 |
| S3-192904 | Threats and Requirements for Key Issue #17 | Nokia, Nokia Shanghai Bell | not treated |  |  |
| S3-192905 | Conclusion to Key Issue #5 | Samsung | noted |  |  |
| S3-192906 | Threats and Requirements for Key Issue #18 | Nokia, Nokia Shanghai Bell | not treated |  |  |
| S3-192907 | New WID on Security aspects of SEAL | Samsung | revised |  | S3-193071 |
| S3-192908 | Threats and Requirements for Key Issue #20 | Nokia, Nokia Shanghai Bell | not treated |  |  |
| S3-192909 | New WID on Security for NR Integrated Access and Backhaul | Samsung | revised |  | S3-193073 |
| S3-192910 | Threats and Requirements for Key Issue #21 | Nokia, Nokia Shanghai Bell | not treated |  |  |
| S3-192911 | Requirement on authorization of IAB Node | Samsung | revised |  | S3-193151 |
| S3-192912 | Solution for authorization of IAB Node | Samsung | revised |  | S3-193152 |
| S3-192913 | P-CR: Editorial cleanup of editor's notes | Sprint Corporation | approved |  |  |
| S3-192914 | Evaluation of solution #2.1 | Samsung | noted |  |  |
| S3-192915 | Evaluation of solution #3.1 | Samsung | noted |  |  |
| S3-192916 | New KI: Botnet threats caused from improper CIOT device usage | NIST, ATT, SPRINT, CABLE LABS, CISCO | revised |  | S3-193101 |
| S3-192917 | Conclusion to Key Issue#2.1 on authentication and authorization of the IAB Node | Samsung | noted |  |  |
| S3-192918 | Adding K5GSRVCC as a possible input key to derive IKSRVCC and CKSRVCC | Qualcomm Incorporated | revised | S3-192338 | S3-193047 |
| S3-192919 | Update of Authentication Enhancements SID | Qualcomm Incorporated | revised |  | S3-193186 |
| S3-192920 | Proposed re-wording of the requirement in key issue #4.1 in TR 33.846 | Qualcomm Incorporated | approved |  |  |
| S3-192921 | Using MACS to provide freshness for the protection of SQN during a re-synchronisation procedure in AKA | Qualcomm Incorporated | not treated | S3-191908 |  |
| S3-192922 | Draft CR for SRVCC 5G to UTRAN | China Unicom, Qualcomm Incoporated | revised | S3-192335 | S3-193045 |
| S3-192923 | Correction to figure in draft CR for 5G to UTRAN CS SRVCC | Qualcomm Incorporated, China Unicom | revised |  | S3-193044 |
| S3-192924 | Some proposed editorial changes to NPN draft CR | Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-192925 | Proposed conclusion to key issue 6.3 on modifying the CAG list | Qualcomm Incorporated | approved |  |  |
| S3-192926 | Adding modification of CAG list security to the draft CR | Qualcomm Incorporated | approved |  |  |
| S3-192927 | SUCI privacy for SNPN | Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | revised |  | S3-193050 |
| S3-192928 | Solution for the privacy protection of CAG ID using NAS signalling | Qualcomm Incorporated | approved |  | - |
| S3-192929 | Discussion on leaving AMF relocation solutions to after Rel-15 | Qualcomm Incorporated | noted |  |  |
| S3-192930 | Discussion on possible solutions to AMF relocation issues | Qualcomm Incorporated | noted | S3-191911 |  |
| S3-192931 | Resolving editor’s notes on solution #10 in TR 33.813 | Qualcomm Incorporated | revised |  | S3-193123 |
| S3-192932 | Proposed solution for deriving PC5 layer keys based on higher layer keys | Qualcomm Incorporated | revised |  | S3-193161 |
| S3-192933 | Minutes of SA3/CT4 call on Nudr sensitive data protection | SA3 Vice-chair (Qualcomm Incorporated) | noted |  |  |
| S3-192934 | Discusson on SA2 LS for MT EDT | Qualcomm Incorporated | noted |  |  |
| S3-192935 | Reply LS on MT EDT | Qualcomm Incorporated | noted |  |  |
| S3-192936 | Alternative shared key based MIB/SIB protection | Qualcomm Incorporated | not treated |  |  |
| S3-192937 | Evaluation against MitM false base station attacks | Qualcomm Incorporated | not treated |  |  |
| S3-192938 | Evaluation of the shared key based MIB/SIB protection | Qualcomm Incorporated | not treated | S3-191922 |  |
| S3-192939 | Evaluation of Solution 20: RRC Reestablishment in RLF | Qualcomm Incorporated | approved |  |  |
| S3-192940 | Issues of resetting NAS COUNT values in 5G to 4G mobility | Qualcomm Incorporated | noted | S3-191916 |  |
| S3-192941 | NAS Count values in the mapped EPS security context in 5GS to EPS change | Qualcomm Incorporated | merged |  |  |
| S3-192942 | Skeleton of URLLC | Qualcomm Incorporated | merged |  | S3-193048 |
| S3-192943 | A solution to providing some network authorisation in PARLOS | Qualcomm Incorporated | revised |  | S3-193114 |
| S3-192944 | Proposed conclusion on providing some network authorisation in PARLOS | Qualcomm Incorporated | revised |  | S3-193116 |
| S3-192945 | Security aspects of RLOS | Qualcomm Incorporated | noted |  |  |
| S3-192946 | On the requirements for 256-bit algorithms | Qualcomm Incorporated | noted |  |  |
| S3-192947 | Aligning KAUSF storage at the UE with SoR and UPU procedures | Qualcomm Incorporated | agreed |  |  |
| S3-192948 | New Solution for botnet threats caused by improper CIOT device usage | NIST, ATT, SPRINT, CABLE LABS, CISCO | revised |  | S3-192960 |
| S3-192949 | Resolving EN on New and Last serving gNB interactions | Samsung | noted |  |  |
| S3-192950 | Solution for Resumecause protection | Samsung | not treated |  |  |
| S3-192951 | Updates to Solution#7 on obtaining accurate clock information | Samsung | not treated |  |  |
| S3-192952 | Deletion of EN on Location update reject in Solution#7 | Samsung | not treated |  |  |
| S3-192953 | Conclusion to Key Issue #6.1 | Samsung | revised |  | S3-193134 |
| S3-192954 | New solution for CAG ID privacy | Samsung,Intel | approved |  |  |
| S3-192955 | Security procedures for CAPIF-7/7e reference points | Samsung | agreed |  |  |
| S3-192956 | Security procedures for CAPIF-3e/4e/5e reference points | Samsung | agreed |  |  |
| S3-192957 | Manufacture Usage Description Discussion | NIST, ATT, SPRINT, CABLE LABS, CISCO | noted |  |  |
| S3-192958 | Categorization of the Key Issues | Nokia, Nokia Shanghai Bell | not treated |  |  |
| S3-192959 | DraftCR - Proposed skeleton for supporting 5G CIoT | Ericsson, Nokia | revised |  | S3-193052 |
| S3-192960 | New Solution for botnet threats caused by improper CIOT device usage | NIST, ATT, Sprint, Cable Labs, Cisco | noted | S3-192948 |  |
| S3-192961 | DraftCR-Control Plane Optimization for CIoT in 5G | Ericsson | noted |  |  |
| S3-192962 | P-CR: Proposed conclusion for PARLOS | Sprint Corporation | merged |  | S3-193116 |
| S3-192963 | Algorithm Negotiation | Samsung | not pursued |  | - |
| S3-192964 | P-CR: Proposed recommendations for PARLOS | Sprint Corporation | merged |  | S3-193116 |
| S3-192965 | pCR to 33.815 clarifying requirements on Parlos | DOCOMO Communications Lab. | revised |  | S3-193115 |
| S3-192966 | Cover sheet for PARLOS 33.815 | Sprint Corporation | approved |  |  |
| S3-192967 | Clarification in Solution 12 | Huawei, Hisilicon | approved | S3-192747 |  |
| S3-192968 | The solution to protect MIB/SIB information | Huawei, Hisilicon | not treated | S3-192748 |  |
| S3-192969 | Key issue on removal of USIM card in IAB node | Huawei, Hisilicon | noted | S3-192749 |  |
| S3-192970 | Proposed solution on protecting the SQN during a re-synchronisation procedure in AKA | Huawei, Hisilicon | not treated | S3-192750 |  |
| S3-192971 | conclusion on KI#4 | Huawei, Hisilicon | noted | S3-192751 |  |
| S3-192972 | mitigate the linkability attack | Huawei, Hisilicon | revised | S3-192752 | S3-193191 |
| S3-192973 | Virtualisation Study Key Issue 22 was S3-191857 | BT plc | not treated |  |  |
| S3-192974 | Virtualisation Study Key Issue 23 was S3-191858 | BT plc | not treated |  |  |
| S3-192975 | Virtualisation Study Key Issue 24 was S3-191859 | BT plc | not treated |  |  |
| S3-192976 | Comments on S3-192824 | Huawei Technologies Co. Ltd. | noted |  |  |
| S3-192977 | Reply LS on authentication of group of IoT devices | S1-192816 | noted | - | - |
| S3-192978 | Agenda | WG Chairman | approved | S3-192500 | - |
| S3-192979 | Correction of text on access authentication for untrusted access | BlackBerry UK Limited | agreed | S3-192540 | - |
| S3-192980 | Reply to: 256 bit radio interface algorithm performance | Qualcomm | noted | - | - |
| S3-192981 | Reply LS on Wireline Access Security Requirements | CableLabs | approved | S3-192604 | - |
| S3-192982 | Removing references of TS 103 383 in TS 35.231 | Orange | agreed | S3-192668 | - |
| S3-192983 | Removing references of TS 103 383 in TS 35.231 | Orange | agreed | S3-192669 | - |
| S3-192984 | Removing references of TS 103 383 in TS 35.231 | Orange | agreed | S3-192671 | - |
| S3-192985 | Removing references of TS 103 383 in TS 35.231 | Orange | agreed | S3-192672 | - |
| S3-192986 | Reply to: LS on withdrawal of TS 103 383 “Smart Cards; Embedded UICC; Requirements Specification” | Orange | approved | - | - |
| S3-192987 | Definition of authentication subscription data and update to UDM requirement | Nokia, Nokia Shanghai Bell | agreed | S3-192587 | - |
| S3-192988 | Missing UDR description in alignment with 29.505 | Nokia, Nokia Shanghai Bell | agreed | S3-192589 | - |
| S3-192989 | Update on ARPF | Nokia, Nokia Shanghai Bell | agreed | S3-192590 | - |
| S3-192990 | Correcting references | ZTE Corporation | agreed | S3-192624 | - |
| S3-192991 | Removing editor notes | ZTE Corporation | agreed | S3-192625 | - |
| S3-192992 | Adjust the proceudure of GPSI and IP/MAC notification | China Mobile | agreed | S3-192794 | - |
| S3-192993 | Clarification for Secondary Authentication | Huawei, Hisilicon | agreed | S3-192777 | - |
| S3-192994 | WID of 5GFBS | Apple | noted | S3-192636 | - |
| S3-192995 | EAP-AKA privacy enhancement in non-3GPP access to EPS | Apple | noted | S3-192650 | - |
| S3-192996 | Notes of the offline session on AMF relocation | NTT-Docomo | noted | - | - |
| S3-192997 | Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility | Intel Deutschland GmbH,Qualcomm | agreed | S3-192631 | - |
| S3-192998 | Security context transfer following the handover from EPS to 5GS | Huawei, Hisilicon | agreed | S3-192683 | - |
| S3-192999 | Changes on handover from 5GS to EPS over N26 | Huawei, Hisilicon | agreed | S3-192717 | - |
| S3-193000 | General NDS/IP SEG support for non-SBA interfaces | Juniper Networks | agreed | S3-192578 | - |
| S3-193001 | Test cases referring to TS 33.117 | Ericsson | withdrawn | S3-192823 | - |
| S3-193002 | Test cases referring to TS 33.117 | Ericsson | withdrawn | - | - |
| S3-193003 | Editorial corrections on the threat references of some test cases | Nokia, Nokia Shanghai Bell | agreed | S3-192635 | - |
| S3-193004 | Update requirements and test cases for gNB SCAS | Huawei, Hisilicon | agreed | S3-192763 | - |
| S3-193005 | Adding AMF critical assets and threats to TS 33.926 | Huawei, Hisilicon | agreed | S3-192714 | - |
| S3-193006 | Adding UPF critical assets and threats to TS 33.926 | Huawei, Hisilicon | agreed | S3-192715 | - |
| S3-193007 | Draft TS 33.514 | NEC | approved | - | - |
| S3-193008 | UDM critical assets and threats to TR 33.926 | Huawei, Hisilicon | agreed | S3-192696 | - |
| S3-193009 | Cover sheet TS 33.512 for approval | Huawei | approved | - | - |
| S3-193010 | Cover sheet TS 33.513 for approval | Samsung | approved | - | - |
| S3-193011 | Cover sheet TS 33.514 for approval | NEC | approved | - | - |
| S3-193012 | Adding SMF critical assets and threats to TS 33.926 | Huawei, Hisilicon | agreed | S3-192712 | - |
| S3-193013 | Editorial change on TS 33.515 | Huawei, Hisilicon | approved | S3-192713 | - |
| S3-193014 | Draft TS 33.515 | Huawei | approved | - | - |
| S3-193015 | Cover sheet TS 33.515 for approval | Huawei | approved | - | - |
| S3-193016 | AUSF critical assets and threats to TR 33.926 | Huawei, Hisilicon | agreed | S3-192698 | - |
| S3-193017 | Draft TS 33.516 | Ericsson | approved | - | - |
| S3-193018 | Cover sheet TS 33.516 for approval | Ericsson | approved | - | - |
| S3-193019 | Draft TS 33.517 | Nokia | approved | - | - |
| S3-193020 | Adding NRF critical assets and threats to TR 33.926 | Huawei, Hisilicon | agreed | S3-192702 | - |
| S3-193021 | Clarifications for Protected MCData | Airbus DS SLC | not pursued | S3-192519 | - |
| S3-193022 | Draft TS 33.518 | Nokia | approved | - | - |
| S3-193023 | Cover sheet draft TS 33.518 for approval | Nokia | approved | - | - |
| S3-193024 | Draft TS 33.513 | Samsung | approved | - | - |
| S3-193025 | Adding abbreviation | ZTE Corporation | approved | S3-192626 | - |
| S3-193026 | Draft TS 33.519 | ZTE | approved | - | - |
| S3-193027 | Adding NEF critical assets and threats to TR 33.926 | Huawei, Hisilicon | agreed | S3-192704 | - |
| S3-193028 | Cover sheet TS 33.519 for approval | ZTE | approved | - | - |
| S3-193029 | Addition of general SBA/SBI aspects in TS 33.117 | Huawei, Hisilicon,Nokia | agreed | S3-192706 | - |
| S3-193030 | Adding critical assets and threats for general NFs to TR 33.926 | Huawei, Hisilicon | agreed | S3-192705 | - |
| S3-193031 | Additional Critical Assets and Threats to PGW Annex R15 | Nokia, Nokia Shanghai Bell | agreed | S3-192653 | - |
| S3-193032 | Additional Critical Assets and Threats to PGW Annex R14 | Nokia | agreed | - | - |
| S3-193033 | Additional Critical Assets and Threats to PGW Annex R16 | Nokia, Nokia Shanghai Bell | agreed | S3-192652 | - |
| S3-193034 | Adding Threat References to PGW Test Cases R14 | Nokia | agreed | - | - |
| S3-193035 | Adding Threat References to PGW Test Cases R15 | Nokia, Nokia Shanghai Bell | agreed | S3-192654 | - |
| S3-193036 | Clarification on test cases in TR 33.117 | Huawei, Hisilicon | agreed | S3-192707 | - |
| S3-193037 | Clarification on test cases in TS 33.117 | Huawei | agreed | - | - |
| S3-193038 | Clarification on test cases in TS 33.117 | Huawei | agreed | - | - |
| S3-193039 | Update testcase of 4.2.4.1.1.2 and 4.2.4.1.1.3 | Huawei | agreed | - | - |
| S3-193040 | Update testcase of 4.2.4.1.1.2 and 4.2.4.1.1.3 | Huawei | agreed | - | - |
| S3-193041 | Update requirements and test cases for eNB SCAS | Huawei, Hisilicon | agreed | S3-192764 | - |
| S3-193042 | Update requirements and test cases for eNB SCAS | Huawei | agreed | - | - |
| S3-193043 | Algorithm Negotiation | Samsung | withdrawn | - | - |
| S3-193044 | Correction to figure in draft CR for 5G to UTRAN CS SRVCC | Qualcomm Incorporated, China Unicom | approved | S3-192923 | - |
| S3-193045 | Draft CR for SRVCC 5G to UTRAN | China Unicom, Qualcomm Incoporated | approved | S3-192922 | - |
| S3-193046 | Security for SRVCC 5G to UTRAN CS | Qualcomm,China Unicom | agreed | - | - |
| S3-193047 | Adding K5GSRVCC as a possible input key to derive IKSRVCC and CKSRVCC | Qualcomm Incorporated | agreed | S3-192918 | - |
| S3-193048 | draftCR for URLLC | Huawei, Hisilicon, Qualcomm | approved | S3-192766 | - |
| S3-193049 | Security for non-public networks - update to S3-192453 | Qualcomm, Nokia, Nokia Shanghai Bell | approved | S3-192592 | - |
| S3-193050 | SUCI privacy for SNPN | Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | approved | S3-192927 | - |
| S3-193051 | Security for non-public networks | Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | agreed | S3-192577 | - |
| S3-193052 | DraftCR - Proposed skeleton for supporting 5G CIoT | Ericsson, Nokia | approved | S3-192959 | - |
| S3-193053 | skeleton of 5WWC | Huawei, Hisilicon | approved | S3-192760 | - |
| S3-193054 | Add a new Annex for the authentication of non-5GC NAS capable devices in WWC | CableLabs, Charter Communications, Nokia, Nokia Shanghai Bell, Lenovo, Motorola Mobility, Ericsson, Comcast, Rogers Communications | approved | S3-192581 | - |
| S3-193055 | New WID on Security aspects of enhancements to the Service-Based 5G System Architecture | Nokia, Nokia Shanghai Bell | agreed | S3-192605 | - |
| S3-193056 | New WID on security of the enhancement to the 5GC location services | CATT | agreed | S3-192828 | - |
| S3-193057 | SID on Storage of Secure Parameters in a 5G system | Vodafone España SA | agreed | S3-192903 | - |
| S3-193058 | Claification on UE context transfer in registration with AMF reallocation via direct NAS reroute | Huawei, Hisilicon | agreed | S3-192709 | - |
| S3-193059 | Reply to: Reply LS on Mobile-terminated Early Data Transmission | Nokia | approved | - | - |
| S3-193060 | Add missing message flow for Procedure for steering of UE | Intel Deutschland GmbH | agreed | S3-192632 | - |
| S3-193061 | Minor corrections to 33163 | Juniper Networks | agreed | S3-192579 | - |
| S3-193062 | Minor corrections to 33163 | Juniper Networks | agreed | S3-192580 | - |
| S3-193063 | Notes on the evening session on SIV | BT | noted | - | - |
| S3-193064 | eSBA: pCR to update Evaluation of Solution #16 | Nokia, Nokia Shanghai Bell | approved | S3-192609 | - |
| S3-193065 | Draft TR 33.855 | Ericsson | approved | - | - |
| S3-193066 | Evaluation for Solution #23 (Token-based authorization for Scenario D using stateless SeCoP) | Ericsson | approved | S3-192804 | - |
| S3-193067 | Update of Solution #24 (Token-based authorization for Scenario C using stateless SeCoP) | Ericsson | approved | S3-192803 | - |
| S3-193068 | Evaluation for Solution #24 (Token-based authorization for Scenario C using stateless SeCoP) | Ericsson | approved | S3-192805 | - |
| S3-193069 | eSBA: new solution for NF service consumer verification during service access authorization in indirect communication scenario | Huawei, Hisilicon | approved | S3-192694 | - |
| S3-193070 | Conclusion of Key Issue #22 (Authorization of NF service access in indirect communication) | Ericsson,Nokia | approved | S3-192806 | - |
| S3-193071 | New WID on Security aspects of SEAL | Samsung | agreed | S3-192907 | - |
| S3-193072 | Analysis of SEAL | Samsung | noted | - | - |
| S3-193073 | New WID on Security for NR Integrated Access and Backhaul | Samsung | agreed | S3-192909 | - |
| S3-193074 | Security of RRC UE capability transfer procedure in EPS | Ericsson | not pursued | S3-192861 | - |
| S3-193075 | New solution: Telescopic FQDN for the SeCoP | Ericsson | approved | S3-192807 | - |
| S3-193076 | LS to CT4 on ESPA using indirect communication | NTT-Docomo | approved | - | - |
| S3-193077 | eSBA: Add conclusion on KI #20 | Nokia, Nokia Shanghai Bell | approved | S3-192610 | - |
| S3-193078 | Conclusion of Key Issue #21: Secure message transport via the SeCoP | Ericsson | approved | S3-192814 | - |
| S3-193079 | New solution: Token-based authorization for NF Sets / NF Service Sets by existing methods | Ericsson | approved | S3-192808 | - |
| S3-193080 | LS to SA2 on ESPA NF sets | NTT-Docomo | approved | - | - |
| S3-193081 | eSBA: Add conclusion on KI #26 | Nokia, Nokia Shanghai Bell, Nokia | approved | S3-192611 | - |
| S3-193082 | UP Gateway deployments | Ericsson | approved | S3-192818 | - |
| S3-193083 | Discussion on UDR related contributions | Nokia | endorsed | - | - |
| S3-193084 | LS on security asepcts of AMF re-alocation procedure | Qualcomm | revised | - | S3-193195 |
| S3-193085 | Threat analysis on misplacement of encrypted IE in JSON object by IPX | Nokia, Nokia Shanghai Bell | approved | S3-192657 | - |
| S3-193086 | Test Case: No misplacement of encrypted IE in JSON object by IPX | Nokia, Nokia Shanghai Bell | approved | S3-192658 | - |
| S3-193087 | Draft TS 33.512 | Huawei | approved | - | - |
| S3-193088 | TR 33.848 Annex - Administration of Virtualisation | NCSC | noted | S3-192541 | - |
| S3-193089 | TR 33.848 Annex - Virtualisation Security Questions | NCSC | noted | S3-192542 | - |
| S3-193090 | TR 33.848 Security Threats and Requirements for Key Issue 1 | NCSC | noted | S3-192544 | - |
| S3-193091 | Threats and Requirements for Key Issue #2 | Nokia, Nokia Shanghai Bell | approved | S3-192890 | - |
| S3-193092 | Threats and Requirements for Key Issue #3 | Nokia, Nokia Shanghai Bell | noted | S3-192891 | - |
| S3-193093 | TR 33.848 Security Threats and Requirements for Key Issue 5 | NCSC,Nokia | noted | S3-192546 | - |
| S3-193094 | Threats and Requirements for Key Issue #5 | Nokia, Nokia Shanghai Bell,NCSC | noted | S3-192899 | - |
| S3-193095 | eSBA: Add conclusion on KI #27 | Nokia, Nokia Shanghai Bell | approved | S3-192629 | - |
| S3-193096 | LS to SA2 on UP gateway function | Deutsche Telekom | approved | - | - |
| S3-193097 | Update of solution #15 in TR 33.855 | Huawei, Hisilicon | approved | S3-192687 | - |
| S3-193098 | New Solution: resource level authorization using access tokens | Ericsson | approved | S3-192817 | - |
| S3-193099 | eSBA: Add conclusion on KI #29 | Nokia, Nokia Shanghai Bell | approved | S3-192613 | - |
| S3-193100 | Resolving the ENs in Solution #25 | Huawei, Hisilicon | approved | S3-192693 | - |
| S3-193101 | New KI: Botnet threats caused from improper CIOT device usage | NIST, ATT, SPRINT, CABLE LABS, CISCO | approved | S3-192916 | - |
| S3-193102 | Address EN in key issue 13 and solution 20 | Huawei, Hisilicon | approved | S3-192769 | - |
| S3-193103 | Draft TR 33.861 | Ericsson | approved | - | - |
| S3-193104 | Evaluation to Sol#4 | Ericsson, Intel | approved | S3-192895 | - |
| S3-193105 | Address EN in solution 19 | Huawei, Hisilicon | approved | S3-192773 | - |
| S3-193106 | Mitigate DDoS Attack on RAN based on RAN coordination | Huawei, Hisilicon | approved | S3-192789 | - |
| S3-193107 | CIOT: New solution for protection of NAS Redirection message | Ericsson | approved | S3-192898 | - |
| S3-193108 | Conclusion for Key Issue #13 | Huawei, Hisilicon | approved | S3-192770 | - |
| S3-193109 | Address two Editor’s Note of solution 4 | Huawei, Hisilicon | approved | S3-192754 | - |
| S3-193110 | Draft TR 33.807 | Huawei | approved | - | - |
| S3-193111 | Evaluation of Solution #7 | Ericsson | withdrawn | - | - |
| S3-193112 | Add conclusion for KI#2 | Huawei, Hisilicon | approved | S3-192758 | - |
| S3-193113 | Draft TR 33.815 | Sprint | approved | - | - |
| S3-193114 | A solution to providing some network authorisation in PARLOS | Qualcomm Incorporated | approved | S3-192943 | - |
| S3-193115 | pCR to 33.815 clarifying requirements on Parlos | DOCOMO Communications Lab. | approved | S3-192965 | - |
| S3-193116 | Proposed conclusion on providing some network authorisation in PARLOS | Qualcomm Incorporated,Spring | approved | S3-192944 | - |
| S3-193117 | P-CR: Proposed recommendations for PARLOS | Sprint Corporation | withdrawn | - | - |
| S3-193118 | Addressing EN in PARLOS Evaluation clause 7.2.3 | Nokia, Nokia Shangahi Bell | approved | S3-192583 | - |
| S3-193119 | Draft TR 33.813 | Nokia | approved | - | - |
| S3-193120 | Addressing EN in solution 6 | Huawei, HiSilicon | noted | S3-192720 | - |
| S3-193121 | Adding evaluation to Solution 7 | Ericsson | approved | S3-192848 | - |
| S3-193122 | Update to Solution 8 protecting NSSAI in AS layer | Nokia, Nokia Shanghai Bell, Ericsson | approved | S3-192584 | - |
| S3-193123 | Resolving editor’s notes on solution #10 in TR 33.813 | Qualcomm Incorporated | approved | S3-192931 | - |
| S3-193124 | TR 33.813 - update for solution #11 | InterDigital Communications | approved | S3-192528 | - |
| S3-193125 | Solution on privacy protection of NSSAI | ZTE Corporation | approved | S3-192627 | - |
| S3-193126 | LS on AUSF role | Ericsson | approved | S3-192850 | - |
| S3-193127 | Complete the Evaluation for Solution #4 | Nokia, Nokia Shanghai Bell | approved | S3-192676 | - |
| S3-193128 | Draft TR 33.814 | CATT | approved | - | - |
| S3-193129 | Cover sheet TR 33.814 for approval | CATT | approved | - | - |
| S3-193130 | Draft TR 33.825 | Huawei | approved | - | - |
| S3-193131 | Cover sheet 33.825 for approval | Huawei | approved | - | - |
| S3-193132 | Draft TR 33.819 | Nokia | approved | - | - |
| S3-193133 | TSC key issue on time synchronization | Nokia, Nokia Shanghai Bell | approved | S3-192597 | - |
| S3-193134 | Conclusion to Key Issue #6.1 | Samsung | approved | S3-192953 | - |
| S3-193135 | TR 33.819 - DH based solution for CAG ID privacy | InterDigital Communications | approved | S3-192526 | - |
| S3-193136 | TR 33.819 - hash based solution for CAG ID privacy | InterDigital Communications | approved | S3-192527 | - |
| S3-193137 | LS on link layer ID update | NEC | withdrawn | - | - |
| S3-193138 | Living Document: New Annex for the SEPP in TR 33.926 | Nokia, Nokia Shanghai Bell | approved | S3-192602 | - |
| S3-193139 | Adding SEPP critical assets and threats to TR 33.926 | Huawei, Hisilicon | agreed | S3-192700 | - |
| S3-193140 | Way forward - KI#2 Proposal#4 SI protection | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, AT&T, NIST, CATT, China Unicom, Apple, Samsung | withdrawn | - | - |
| S3-193141 | Solution for CAG ID protection | Huawei, Hisilicon | approved | S3-192690 | - |
| S3-193142 | LS on sending CAG-ID in NAS signalling | Qualcomm Incorporated | approved | - | - |
| S3-193143 | Update to Key issue#5 in UP IP | Apple | approved | S3-192647 | - |
| S3-193144 | pCR to 33.853 - addition of solution for LTE | Vodafone España SA | approved | S3-192659 | - |
| S3-193145 | Resolving the Editor's note for Solution 5 in TR 33.853 | China Mobile | approved | S3-192728 | - |
| S3-193146 | New Solution for a UE connected to 5GC indicating its support of UP IP over eUTRA | Ericsson | approved | S3-192801 | - |
| S3-193147 | Draft TR 33.853 | Vodafone | approved | - | - |
| S3-193148 | IAB-node: terminology change | THALES, ORANGE | approved | S3-192665 | - |
| S3-193149 | Draft TR 33.824 | Samsung | approved | - | - |
| S3-193150 | IAB: Assumptions related to key hierarchy in IAB architecture in 5G | Ericsson | approved | S3-192825 | - |
| S3-193151 | Requirement on authorization of IAB Node | Samsung | approved | S3-192911 | - |
| S3-193152 | Solution for authorization of IAB Node | Samsung | approved | S3-192912 | - |
| S3-193153 | KI #2.3: security threats and potential requirements | Ericsson | approved | S3-192826 | - |
| S3-193154 | 33.836 - solution #1 update | InterDigital Communications | approved | S3-192522 | - |
| S3-193155 | TR 33.836 - update for solution #2 | InterDigital Communications | approved | S3-192523 | - |
| S3-193156 | Draft TR 33.836 | LG | approved | - | - |
| S3-193157 | TR 33.836 - solution #3 update | InterDigital Communications | approved | S3-192524 | - |
| S3-193158 | TR 33.836 solution #4 update | InterDigital Communications | approved | S3-192525 | - |
| S3-193159 | new solution on privacy protection for unicast | NEC Corporation | approved | S3-192571 | - |
| S3-193160 | eV2X: New solution for Security for eV2X unicast messages over PC5 | Intel Deutschland GmbH | approved | S3-192634 | - |
| S3-193161 | Proposed solution for deriving PC5 layer keys based on higher layer keys | Qualcomm Incorporated | approved | S3-192932 | - |
| S3-193162 | new KI on privacy protection for broadcast | NEC Corporation | approved | S3-192569 | - |
| S3-193163 | V2X Group Key Provisioning | Lenovo, Motorola Mobility | approved | S3-192741 | - |
| S3-193164 | new KI on minimizing the impact of privacy protection mechanism in the application layer communication | NEC Corporation | approved | S3-192574 | - |
| S3-193165 | new solution on minimizing the impact of privacy protection mechanism in the application layer communication | NEC Corporation | approved | S3-192575 | - |
| S3-193166 | New KI: Key issue on UP security policy handling for PC5 and Uu interface | Huawei, Hisilicon | approved | S3-192695 | - |
| S3-193167 | terminology alignment on groupcast | NEC Corporation | approved | S3-192568 | - |
| S3-193168 | Draft TR 33.835 | China Mobile | approved | - | - |
| S3-193169 | Solution #15 updates including evaluation update | Ericsson | approved | S3-192885 | - |
| S3-193170 | Conclusion on AKMA architecture and authentication procedure | China Mobile, Nokia, Nokia Shanghai Bell | approved | S3-192677 | - |
| S3-193171 | Resovle Editor's notes in Solution for Key freshness in AKMA | Huawei, Hisilicon | approved | S3-192788 | - |
| S3-193172 | New KI for TR 33.835 - roaming environment | InterDigital Communications | withdrawn | - | - |
| S3-193173 | Way forward - KI#1 Proposal#1 UE caps | Ericsson, Nokia, Vodafone, Deutsche Telekom AG, CableLabs, LG Electronics, Samsung, Apple | approved | S3-192863 | - |
| S3-193174 | eSBA: Add conclusion on KI #23 | Nokia, Nokia Shanghai Bel,Ericssonl | approved | S3-192614 | - |
| S3-193175 | LS to RAN2 on FBS detection | Huawei, HiSilicon | approved | S3-192739 | - |
| S3-193176 | Draft TR 33.809 | Apple | approved | - | - |
| S3-193177 | Cover sheet for TR 33.835 information | China Mobile | approved | - | - |
| S3-193178 | New WID on Authentication and Key Management for Applications based on 3GPP credential in 5G | China Mobile | agreed | S3-192859 | - |
| S3-193179 | Cover sheet TR 33.807 for approval | Huawei | approved | - | - |
| S3-193180 | Draft TR 33.818 | China Mobile | approved | - | - |
| S3-193181 | Adding contents into clause 4.8 | China Mobile | approved | S3-192838 | - |
| S3-193182 | Adding the description of the parts in SCAS documents and ToE into clause 5.2.1 and 5.2.2 | China Mobile M2M Company Ltd. | approved | S3-192841 | - |
| S3-193183 | Adding the description of Generic Vitualized Network Product model of type 1 | China Mobile | approved | S3-192842 | - |
| S3-193184 | Adding the description for generic virtualized network product model of type 2 | China Mobile M2M Company Ltd. | approved | S3-192843 | - |
| S3-193185 | Draft TR 33.848 | BT | approved | - | - |
| S3-193186 | Update of Authentication Enhancements SID | Qualcomm Incorporated | agreed | S3-192919 | - |
| S3-193187 | Key issue on the authenticaiton result storage in the UDM | Huawei, Hisilicon | approved | S3-192692 | - |
| S3-193188 | Draft TR 33.846 | Ericsson | approved | - | - |
| S3-193189 | Handling of Sync failure | ZTE Corporation | approved | S3-192622 | - |
| S3-193190 | A Solution for Key Isssue#2.1 and key issue #4.1 in TR 33.846 | China Mobile | approved | S3-192681 | - |
| S3-193191 | mitigate the linkability attack | Huawei, Hisilicon | approved | S3-192972 | - |
| S3-193192 | Conclusion on KI#15 | Ericsson | approved | S3-192797 | - |
| S3-193193 | Key issue on Secure network credentials creation for constrained devices | Nokia, Nokia Shanghai Bell, Perspecta Labs, Interdigital | noted | S3-192599 | - |
| S3-193194 | Notes of the second offline session on AMF relocation | NTT-Docomo | noted | - | - |
| S3-193195 | Draft LS on security asepcts of AMF re-alocation procedure | Ericsson | merged | S3-193084 | S3-193197 |
| S3-193196 | Draft LS on security asepcts of AMF re-alocation procedure | Huawei | revised | - | S3-193197 |
| S3-193197 | LS on security asepcts of AMF re-alocation procedure | Qualcomm | approved | S3-193196 | - |
| S3-193198 | Cover sheet TS 33.517 for approval | Nokia | approved | - | - |
| S3-193199 | SA3 meeting calendar | MCC | revised | S3-192503 | S3-193203 |
| S3-193200 | Work item on integrating GBA to 5GC | Ericsson, Vodafone | agreed | S3-192883 | - |
| S3-193201 | New Key Issue on Rejected S-NSSAI Revokation | Lenovo, Motorola Mobility | approved | S3-192744 | - |
| S3-193202 | Work Plan input from Rapporteurs | MCC | noted | S3-192504 | - |
| S3-193203 | SA3 meeting calendar | MCC | noted | S3-193199 | - |

## Annex B: List of change requests

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Document | Title | Source | Spec | CR | Rev | Rel | Cat | WI | Decision |
| S3-192706 | Update of living Document: General SBA/SBI aspects in TS 33.117 | Huawei, Hisilicon | 33.117 | 0047 | - | Rel-16 | B | SCAS\_5G | revised |
| S3-193029 | Addition of general SBA/SBI aspects in TS 33.117 | Huawei, Hisilicon,Nokia | 33.117 | 0047 | 1 | Rel-16 | B | SCAS\_5G | agreed |
| S3-192707 | Clarification on test cases in TR 33.117 | Huawei, Hisilicon | 33.117 | 0048 | - | Rel-14 | F | SCAS-SA3 | revised |
| S3-193036 | Clarification on test cases in TR 33.117 | Huawei, Hisilicon | 33.117 | 0048 | 1 | Rel-14 | F | SCAS-SA3 | agreed |
| S3-192761 | Update testcase of 4.2.4.1.1.2 and 4.2.4.1.1.3 | Huawei, Hisilicon | 33.117 | 0049 | - | Rel-14 | F | SCAS-SA3 | agreed |
| S3-192762 | Update test cases for 4.3.2.3,4.3.2.4, and 4.3.2.5 | Huawei, Hisilicon | 33.117 | 0050 | - | Rel-14 | F | SCAS-SA3 | not pursued |
| S3-193037 | Clarification on test cases in TS 33.117 | Huawei | 33.117 | 0051 | - | Rel-15 | A | SCAS-SA3 | agreed |
| S3-193038 | Clarification on test cases in TS 33.117 | Huawei | 33.117 | 0052 | - | Rel-16 | A | SCAS-SA3 | agreed |
| S3-193039 | Update testcase of 4.2.4.1.1.2 and 4.2.4.1.1.3 | Huawei | 33.117 | 0053 | - | Rel-15 | A | SCAS-SA3 | agreed |
| S3-193040 | Update testcase of 4.2.4.1.1.2 and 4.2.4.1.1.3 | Huawei | 33.117 | 0054 | - | Rel-16 | A | SCAS-SA3 | agreed |
| S3-192955 | Security procedures for CAPIF-7/7e reference points | Samsung | 33.122 | 0024 | - | Rel-16 | B | eCAPIF | agreed |
| S3-192956 | Security procedures for CAPIF-3e/4e/5e reference points | Samsung | 33.122 | 0025 | - | Rel-16 | B | eCAPIF | agreed |
| S3-192579 | Minor corrections to 33163 | Juniper Networks | 33.163 | 0012 | - | Rel-15 | F | BEST\_MTC\_Sec | revised |
| S3-193061 | Minor corrections to 33163 | Juniper Networks | 33.163 | 0012 | 1 | Rel-15 | F | BEST\_MTC\_Sec | agreed |
| S3-192580 | Minor corrections to 33163 | Juniper Networks | 33.163 | 0013 | - | Rel-16 | A | BEST\_MTC\_Sec | revised |
| S3-193062 | Minor corrections to 33163 | Juniper Networks | 33.163 | 0013 | 1 | Rel-16 | A | BEST\_MTC\_Sec | agreed |
| S3-192519 | Clarifications for Protected MCData | Airbus DS SLC | 33.180 | 0115 | - | Rel-16 | F | eMCSec | revised |
| S3-193021 | Clarifications for Protected MCData | Airbus DS SLC | 33.180 | 0115 | 1 | Rel-16 | F | eMCSec | not pursued |
| S3-192963 | Algorithm Negotiation | Samsung | 33.180 | 0116 | - | Rel-16 | B | eMCSec | not pursued |
| S3-193043 | Algorithm Negotiation | Samsung | 33.180 | 0116 | 1 | Rel-16 | B | eMCSec | withdrawn |
| S3-192764 | Update requirements and test cases for eNB SCAS | Huawei, Hisilicon | 33.216 | 0003 | - | Rel-15 | F | SCAS\_eNB | revised |
| S3-193041 | Update requirements and test cases for eNB SCAS | Huawei, Hisilicon | 33.216 | 0003 | 1 | Rel-15 | F | SCAS\_eNB | agreed |
| S3-193042 | Update requirements and test cases for eNB SCAS | Huawei | 33.216 | 0004 | - | Rel-16 | A | SCAS\_eNB | agreed |
| S3-192654 | Adding Threat References to PGW Test Cases R15 | Nokia, Nokia Shanghai Bell | 33.250 | 0004 | - | Rel-15 | A | SCAS | revised |
| S3-193035 | Adding Threat References to PGW Test Cases R15 | Nokia, Nokia Shanghai Bell | 33.250 | 0004 | 1 | Rel-15 | A | SCAS-SA3 | agreed |
| S3-193034 | Adding Threat References to PGW Test Cases R14 | Nokia | 33.250 | 0005 | - | Rel-14 | F | SCAS-SA3 | agreed |
| S3-192918 | Adding K5GSRVCC as a possible input key to derive IKSRVCC and CKSRVCC | Qualcomm Incorporated | 33.401 | 0680 | 2 | Rel-16 | B | 5GS\_UTRAN\_SEC | revised |
| S3-193047 | Adding K5GSRVCC as a possible input key to derive IKSRVCC and CKSRVCC | Qualcomm Incorporated | 33.401 | 0680 | 3 | Rel-16 | B | 5GS\_UTRAN\_SEC | agreed |
| S3-192861 | Security of RRC UE capability transfer procedure in EPS | Ericsson | 33.401 | 0682 | - | Rel-15 | F | TEI15 | revised |
| S3-193074 | Security of RRC UE capability transfer procedure in EPS | Ericsson | 33.401 | 0682 | 1 | Rel-15 | F | TEI15 | not pursued |
| S3-192589 | Missing UDR description in alignment with 29.505 | Nokia, Nokia Shanghai Bell | 33.501 | 0590 | 2 | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192988 | Missing UDR description in alignment with 29.505 | Nokia, Nokia Shanghai Bell | 33.501 | 0590 | 3 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192591 | Adding Nudr service | Nokia, Nokia Shanghai Bell | 33.501 | 0591 | 2 | Rel-15 | F | 5GS\_Ph1-SEC | not pursued |
| S3-192563 | NAS Count values in the mapped EPS security context in 5GS to EPS change | Qualcomm Incorporated | 33.501 | 0611 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192587 | Definition of authentication subscription data and update to UDM requirement | Nokia, Nokia Shanghai Bell | 33.501 | 0617 | 2 | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192987 | Definition of authentication subscription data and update to UDM requirement | Nokia, Nokia Shanghai Bell | 33.501 | 0617 | 3 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192588 | Requirement on UDR | Nokia, Nokia Shanghai Bell | 33.501 | 0621 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | not pursued |
| S3-192590 | Update on ARPF | Nokia, Nokia Shanghai Bell | 33.501 | 0622 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192989 | Update on ARPF | Nokia, Nokia Shanghai Bell | 33.501 | 0622 | 2 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192530 | Corrections for Definitions and Abbreviations clauses | AT&T, Interdigital, Nokia | 33.501 | 0639 | - | Rel-15 | F | 5GS\_Ph1-SEC | not pursued |
| S3-192540 | Correction of text on access authentication for untrusted access | BlackBerry UK Limited | 33.501 | 0640 | - | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192979 | Correction of text on access authentication for untrusted access | BlackBerry UK Limited | 33.501 | 0640 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192577 | Security for non-public networks | Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | 33.501 | 0641 | - | Rel-16 | B | Vertical\_LAN\_SEC | revised |
| S3-193051 | Security for non-public networks | Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | 33.501 | 0641 | 1 | Rel-16 | B | Vertical\_LAN\_SEC | agreed |
| S3-192578 | General NDS/IP SEG support for non-SBA interfaces | Juniper Networks | 33.501 | 0642 | - | Rel-16 | C | 5GS\_Ph1-SEC | revised |
| S3-193000 | General NDS/IP SEG support for non-SBA interfaces | Juniper Networks | 33.501 | 0642 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192617 | Security for registration with AMF re-allocation | ZTE Corporation | 33.501 | 0643 | - | Rel-15 | F | 5GS\_Ph1-SEC | not pursued |
| S3-192624 | Correcting references | ZTE Corporation | 33.501 | 0644 | - | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192990 | Correcting references | ZTE Corporation | 33.501 | 0644 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192625 | Removing editor notes | ZTE Corporation | 33.501 | 0645 | - | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192991 | Removing editor notes | ZTE Corporation | 33.501 | 0645 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192631 | Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility | Intel Deutschland GmbH | 33.501 | 0646 | - | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192997 | Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility | Intel Deutschland GmbH,Qualcomm | 33.501 | 0646 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192632 | Add missing message flow for Procedure for steering of UE | Intel Deutschland GmbH | 33.501 | 0647 | - | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-193060 | Add missing message flow for Procedure for steering of UE | Intel Deutschland GmbH | 33.501 | 0647 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192683 | Security context transfer following the handover from EPS to 5GS | Huawei, Hisilicon | 33.501 | 0648 | - | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192998 | Security context transfer following the handover from EPS to 5GS | Huawei, Hisilicon | 33.501 | 0648 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192708 | Clarification on the topology hiding in SBI | Huawei, Hisilicon | 33.501 | 0649 | - | Rel-15 | F | 5GS\_Ph1-SEC | not pursued |
| S3-192709 | Claification on UE context transfer in registration with AMF reallocation via direct NAS reroute | Huawei, Hisilicon | 33.501 | 0650 | - | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-193058 | Claification on UE context transfer in registration with AMF reallocation via direct NAS reroute | Huawei, Hisilicon | 33.501 | 0650 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192710 | Solving registration failure in registration procedure with AMF reallocation | Huawei, Hisilicon, CAICT | 33.501 | 0651 | - | Rel-16 | F | 5GS\_Ph1-SEC | not pursued |
| S3-192717 | Changes on handover from 5GS to EPS over N26 | Huawei, Hisilicon | 33.501 | 0652 | - | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192999 | Changes on handover from 5GS to EPS over N26 | Huawei, Hisilicon | 33.501 | 0652 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192777 | Clarification for Secondary Authentication | Huawei, Hisilicon | 33.501 | 0653 | - | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192993 | Clarification for Secondary Authentication | Huawei, Hisilicon | 33.501 | 0653 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192793 | Modification of the message name in the key derivation during handover | CATT | 33.501 | 0654 | - | Rel-15 | F | 5GS\_Ph1-SEC | not pursued |
| S3-192794 | Adjust the proceudure of GPSI and IP/MAC notification | China Mobile | 33.501 | 0655 | - | Rel-15 | F | 5GS\_Ph1-SEC | revised |
| S3-192992 | Adjust the proceudure of GPSI and IP/MAC notification | China Mobile | 33.501 | 0655 | 1 | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192862 | Security of RRC UE capability transfer procedure in 5GS | Ericsson | 33.501 | 0656 | - | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-192888 | AMF re-allocation and slicing | Ericsson | 33.501 | 0657 | - | Rel-15 | F | 5GS\_Ph1-SEC | not pursued |
| S3-192941 | NAS Count values in the mapped EPS security context in 5GS to EPS change | Qualcomm Incorporated | 33.501 | 0658 | - | Rel-15 | F | 5GS\_Ph1-SEC | merged |
| S3-192947 | Aligning KAUSF storage at the UE with SoR and UPU procedures | Qualcomm Incorporated | 33.501 | 0659 | - | Rel-15 | F | 5GS\_Ph1-SEC | agreed |
| S3-193046 | Security for SRVCC 5G to UTRAN CS | Qualcomm,China Unicom | 33.501 | 0660 | - | Rel-16 | B | 5GS\_UTRAN\_SEC | agreed |
| S3-192635 | Categorization of the test cases and other editorial corrections | Nokia, Nokia Shanghai Bell | 33.511 | 0002 | - | Rel-16 | D | SCAS\_5G | revised |
| S3-193003 | Editorial corrections on the threat references of some test cases | Nokia, Nokia Shanghai Bell | 33.511 | 0002 | 1 | Rel-16 | D | SCAS\_5G | agreed |
| S3-192763 | Update requirements and test cases for gNB SCAS | Huawei, Hisilicon | 33.511 | 0003 | - | Rel-16 | F | SCAS\_5G | revised |
| S3-193004 | Update requirements and test cases for gNB SCAS | Huawei, Hisilicon | 33.511 | 0003 | 1 | Rel-16 | F | SCAS\_5G | agreed |
| S3-192823 | Test cases referring to TS 33.117 | Ericsson | 33.511 | 0004 | - | Rel-16 | F | SCAS\_5G | not pursued |
| S3-193001 | Test cases referring to TS 33.117 | Ericsson | 33.511 | 0004 | 1 | Rel-16 | F | SCAS\_5G | withdrawn |
| S3-192833 | Correction to test case requirement reference | L.M. Ericsson Limited | 33.511 | 0005 | - | Rel-16 | F | SCAS\_5G | agreed |
| S3-192652 | Additional Critical Assets and Threats to PGW Annex R16 | Nokia, Nokia Shanghai Bell | 33.926 | 0017 | - | Rel-16 | A | SCAS | revised |
| S3-193033 | Additional Critical Assets and Threats to PGW Annex R16 | Nokia, Nokia Shanghai Bell | 33.926 | 0017 | 1 | Rel-16 | A | SCAS\_PGW | agreed |
| S3-192653 | Additional Critical Assets and Threats to PGW Annex R15 | Nokia, Nokia Shanghai Bell | 33.926 | 0018 | - | Rel-15 | F | SCAS | revised |
| S3-193031 | Additional Critical Assets and Threats to PGW Annex R15 | Nokia, Nokia Shanghai Bell | 33.926 | 0018 | 1 | Rel-15 | F | SCAS\_PGW | agreed |
| S3-192696 | UDM critical assets and threats to TR 33.926 | Huawei, Hisilicon | 33.926 | 0019 | - | Rel-16 | B | SCAS\_5G | revised |
| S3-193008 | UDM critical assets and threats to TR 33.926 | Huawei, Hisilicon | 33.926 | 0019 | 1 | Rel-16 | B | SCAS\_5G | agreed |
| S3-192698 | AUSF critical assets and threats to TR 33.926 | Huawei, Hisilicon | 33.926 | 0020 | - | Rel-16 | B | SCAS\_5G | revised |
| S3-193016 | AUSF critical assets and threats to TR 33.926 | Huawei, Hisilicon | 33.926 | 0020 | 1 | Rel-16 | B | SCAS\_5G | agreed |
| S3-192700 | Editorial changes on SEPP critical assets and threats to TR 33.926 | Huawei, Hisilicon | 33.926 | 0021 | - | Rel-16 | B | SCAS\_5G | revised |
| S3-193139 | Adding SEPP critical assets and threats to TR 33.926 | Huawei, Hisilicon | 33.926 | 0021 | 1 | Rel-16 | B | SCAS\_5G | agreed |
| S3-192702 | Adding NRF critical assets and threats to TR 33.926 | Huawei, Hisilicon | 33.926 | 0022 | - | Rel-16 | B | SCAS\_5G | revised |
| S3-193020 | Adding NRF critical assets and threats to TR 33.926 | Huawei, Hisilicon | 33.926 | 0022 | 1 | Rel-16 | B | SCAS\_5G | agreed |
| S3-192704 | Adding NEF critical assets and threats to TR 33.926 | Huawei, Hisilicon | 33.926 | 0023 | - | Rel-16 | B | SCAS\_5G | revised |
| S3-193027 | Adding NEF critical assets and threats to TR 33.926 | Huawei, Hisilicon | 33.926 | 0023 | 1 | Rel-16 | B | SCAS\_5G | agreed |
| S3-192705 | Adding critical assets and threats for general NFs to TR 33.926 | Huawei, Hisilicon | 33.926 | 0024 | - | Rel-16 | B | SCAS\_5G | revised |
| S3-193030 | Adding critical assets and threats for general NFs to TR 33.926 | Huawei, Hisilicon | 33.926 | 0024 | 1 | Rel-16 | B | SCAS\_5G | agreed |
| S3-192712 | Adding SMF critical assets and threats to TS 33.926 | Huawei, Hisilicon | 33.926 | 0025 | - | Rel-16 | B | SCAS\_5G | revised |
| S3-193012 | Adding SMF critical assets and threats to TS 33.926 | Huawei, Hisilicon | 33.926 | 0025 | 1 | Rel-16 | B | SCAS\_5G | agreed |
| S3-192714 | Adding AMF critical assets and threats to TS 33.926 | Huawei, Hisilicon | 33.926 | 0026 | - | Rel-16 | B | SCAS\_5G | revised |
| S3-193005 | Adding AMF critical assets and threats to TS 33.926 | Huawei, Hisilicon | 33.926 | 0026 | 1 | Rel-16 | B | SCAS\_5G | agreed |
| S3-192715 | Adding UPF critical assets and threats to TS 33.926 | Huawei, Hisilicon | 33.926 | 0027 | - | Rel-16 | B | SCAS\_5G | revised |
| S3-193006 | Adding UPF critical assets and threats to TS 33.926 | Huawei, Hisilicon | 33.926 | 0027 | 1 | Rel-16 | B | SCAS\_5G | agreed |
| S3-193032 | Additional Critical Assets and Threats to PGW Annex R14 | Nokia | 33.926 | 0028 | - | Rel-14 | F | SCAS-SA3 | agreed |
| S3-192668 | Removing references of TS 103 383 in TS 35.231 | Orange | 35.231 | 0002 | - | Rel-12 | F | TEI12 | revised |
| S3-192982 | Removing references of TS 103 383 in TS 35.231 | Orange | 35.231 | 0002 | 1 | Rel-12 | F | TEI12 | agreed |
| S3-192669 | Removing references of TS 103 383 in TS 35.231 | Orange | 35.231 | 0003 | - | Rel-13 | A | TEI13 | revised |
| S3-192983 | Removing references of TS 103 383 in TS 35.231 | Orange | 35.231 | 0003 | 1 | Rel-13 | A | TEI12 | agreed |
| S3-192671 | Removing references of TS 103 383 in TS 35.231 | Orange | 35.231 | 0004 | - | Rel-14 | A | TEI14 | revised |
| S3-192984 | Removing references of TS 103 383 in TS 35.231 | Orange | 35.231 | 0004 | 1 | Rel-14 | A | TEI12 | agreed |
| S3-192672 | Removing references of TS 103 383 in TS 35.231 | Orange | 35.231 | 0005 | - | Rel-15 | A | TEI15 | revised |
| S3-192985 | Removing references of TS 103 383 in TS 35.231 | Orange | 35.231 | 0005 | 1 | Rel-15 | A | TEI12 | agreed |

## Annex C: Lists of liaisons

### C1: Incoming liaison statements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document | Original | Title | From | Decision | Reply TDoc |
| S3-192505 |  | Wireline Access Security requirements | BBF | replied to | (none) |
| S3-192506 |  | LS on Broadcast of Location Assistance Data for NR | S2-1908104 | noted | (none) |
| S3-192507 |  | Reply LS to Reply LS on protection of PC5-RRC messages for sidelink unicast communication | S2-1908229 | noted | (none) |
| S3-192508 |  | Reply LS on RRC Connection Re-Establishment for CP for NB-IoT connected to 5GC | S2-1908553 | noted | (none) |
| S3-192509 |  | Reply LS on DL-only UE-based positioning | S2-1908624 | noted | (none) |
| S3-192510 |  | Reply LS on Mobile-terminated Early Data Transmission | S2-1908629 | replied to | S3-193059 |
| S3-192511 |  | Reply LS on authentication of group of IoT devices | S2-1908632 | noted | (none) |
| S3-192512 |  | LS on withdrawal of TS 103 383 “Smart Cards; Embedded UICC; Requirements Specification” | ETSI TC SCP | replied to | S3-192986 |
| S3-192513 |  | LS on SG11 activities related to improvement of the SS7 security including for digital financial services | ITU-T SG11 | noted | (none) |
| S3-192514 |  | Reply LS on Nudr Sensitive Data Protection | SP-190581 | noted | (none) |
| S3-192516 |  | Reply LS on ETSI Plugtest standards issues | S6-191525 | noted | (none) |
| S3-192533 |  | LS from TC SmartM2M STF547 to 3GPP SA1 Cc SA3 | ETSI TC SmartM2M | noted | (none) |
| S3-192534 |  | LS on the call for proposals for an internationally agreed Vehicular Multimedia Architecture | ITU-T FG-VM | noted | (none) |
| S3-192535 |  | 256 bit radio interface algorithm performance | ETSI SAGE | postponed | ???? |
| S3-192977 |  | Reply LS on authentication of group of IoT devices | S1-192816 | noted | (none) |

### C2: Outgoing liaison statements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Document | Title | To | Cc | reply to i/c LS |
| S3-192981 | Reply LS on Wireline Access Security Requirements | BBF | SA2 | BBF |
| S3-192986 | Reply to: LS on withdrawal of TS 103 383 “Smart Cards; Embedded UICC; Requirements Specification” | ETSI TC SCP | ETSI TC SCP REQ | S3-192512 |
| S3-193059 | Reply to: Reply LS on Mobile-terminated Early Data Transmission | SA2,RAN2,RAN3,CT1 | - | S3-192510 |
| S3-193076 | LS to CT4 on ESPA using indirect communication | CT4 | - |  |
| S3-193080 | LS to SA2 on ESPA NF sets | SA2 | - |  |
| S3-193096 | LS to SA2 on UP gateway function | SA2 | - |  |
| S3-193126 | LS on AUSF role | SA2 | - | - |
| S3-193142 | LS on sending CAG-ID in NAS signalling | SA2,RAN2,RAN3 | CT1 | - |
| S3-193175 | LS to RAN2 on FBS detection | RAN2,RAN3 | - | - |
| S3-193197 | LS on security asepcts of AMF re-alocation procedure | SA2 | CT1 | - |

## Annex D: List of agreed/approved new and revised Work Items

|  |  |  |  |
| --- | --- | --- | --- |
| Document | Title | Source | new/revised |
| S3-193057 | SID on Storage of Secure Parameters in a 5G system | Vodafone España SA | SID new |
| S3-193186 | Update of Authentication Enhancements SID | Qualcomm Incorporated | SID revised |
| S3-193055 | New WID on Security aspects of enhancements to the Service-Based 5G System Architecture | Nokia, Nokia Shanghai Bell | WID new |
| S3-193056 | New WID on security of the enhancement to the 5GC location services | CATT | WID new |
| S3-193071 | New WID on Security aspects of SEAL | Samsung | WID new |
| S3-193073 | New WID on Security for NR Integrated Access and Backhaul | Samsung | WID new |
| S3-193178 | New WID on Authentication and Key Management for Applications based on 3GPP credential in 5G | China Mobile | WID new |
| S3-193200 | Work item on integrating GBA to 5GC | Ericsson, Vodafone | WID new |

## Annex E: List of draft Technical Specifications and Reports

|  |  |  |  |
| --- | --- | --- | --- |
| Document | Spec | vers | Doc title |
| S3-193007 | 33.514 | 0.6.0 | Draft TS 33.514 |
| S3-193014 | 33.515 | 0.5.0 | Draft TS 33.515 |
| S3-193017 | 33.516 | 0.3.0 | Draft TS 33.516 |
| S3-193019 | 33.517 | 0.6.0 | Draft TS 33.517 |
| S3-193022 | 33.518 | 0.5.0 | Draft TS 33.518 |
| S3-193024 | 33.513 | 0.5.0 | Draft TS 33.513 |
| S3-193026 | 33.519 | 0.6.0 | Draft TS 33.519 |
| S3-193065 | 33.855 | 1.7.0 | Draft TR 33.855 |
| S3-193087 | 33.512 | 0.9.0 | Draft TS 33.512 |
| S3-193103 | 33.861 | 1.3.0 | Draft TR 33.861 |
| S3-193110 | 33.807 | 0.7.0 | Draft TR 33.807 |
| S3-193113 | 33.815 | 0.7.0 | Draft TR 33.815 |
| S3-193119 | 33.813 | 0.6.0 | Draft TR 33.813 |
| S3-193128 | 33.814 | 0.6.0 | Draft TR 33.814 |
| S3-193130 | 33.825 | 1.2.0 | Draft TR 33.825 |
| S3-193132 | 33.819 | 1.2.0 | Draft TR 33.819 |
| S3-193147 | 33.853 | 0.5.0 | Draft TR 33.853 |
| S3-193149 | 33.824 | 0.4.0 | Draft TR 33.824 |
| S3-193156 | 33.836 | 0.3.0 | Draft TR 33.836 |
| S3-193168 | 33.835 | 0.6.0 | Draft TR 33.835 |
| S3-193176 | 33.809 | 0.6.0 | Draft TR 33.809 |
| S3-193180 | 33.818 | 0.4.0 | Draft TR 33.818 |
| S3-193185 | 33.848 | 0.3.0 | Draft TR 33.848 |
| S3-193188 | 33.846 | 0.3.0 | Draft TR 33.846 |

## Annex F: List of action items

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Meeting/Number | Agenda item | Document | Details | Responsible | Due by |
| 96/1 | 7.2.3 | S3-193006 | Check the scope of 33.926 and modify all the introduction clauses of all annexes to make them specific to the annex and not to the whole document by bringing new CRs. | Marcus (Huawei) | 2019-11-14 |
| 96/2 | 8.18 | S3-192567 | Reword the sentence "However no IE has been defined for the for the cross-RAT PC5 control authorization indication. It has been included decided that SA3 shall make a decision on this matter." | Rapporteur | 2019-11-17 |

## Annex G: List of participants

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TITLE | Family Name | Given Name | Employer Organization | Organization Represented |
| Ms. | Andersdotter | Amelia | ARTICLE19 | ARTICLE19 |
| Mr. | Bakker | John-Luc | BlackBerry UK Limited | BlackBerry UK Limited |
| Dr. | Ben Henda | Noamen | Ericsson LM | Nanjing Ericsson Panda Com Ltd |
| Mr. | Bernsen | John | Philips International B.V. | Philips International B.V. |
| Mr. | Blanchard | Colin | BT plc | BT plc |
| Mr. | Brusilovsky | Alec | InterDigital, Inc. | InterDigital Communications |
| Mr. | Cano Soveri | Mirko | ETSI | ETSI |
| Mr. | Canterbury | Mark | Tencastle Limited | National Technical Assistance |
| Mr. | Castagno | Mauro | TELECOM ITALIA S.p.A. | TELECOM ITALIA S.p.A. |
| Dr. | Chen | Chiung-jang | CHTTL | CHTTL |
| Mr. | Cichonski | Jeffrey | NIST | NIST |
| Dr. | Corbett | Cherita | Johns Hopkins University APL | Johns Hopkins University APL |
| Ms. | Deng | Juan | HuaWei Technologies Co., Ltd | HUAWEI Technologies Japan K.K. |
| Mr. | Doerr | Johannes | BMWi | BMWi |
| Mr. | Dolly | Martin | AT&T | AT&T GNS Belgium SPRL |
| Miss | Driscoll | Florence | NCSC | NCSC |
| Mr. | Ennesser | Fran?ois | Huawei Technologies France | Huawei Technologies France |
| Dr. | Escott | Adrian | Qualcomm CDMA Technologies | Qualcomm CDMA Technologies |
| Mr. | Evans | Tim P. | VODAFONE Group Plc | Vodafone España SA |
| Mr. | Everett | Jared | Johns Hopkins University APL | Johns Hopkins University APL |
| Mr. | Feng | Cheng | Datang Mobile Com. Equipment | Datang Mobile Com. Equipment |
| Mr. | Gamishev | Todor | Orange | Orange |
| Mr. | Gautam | Sheel Priya | Department of Telecom | Department of Telecom |
| Mr. | Goldberg | Martin | U.S. Department of Defense | U.S. Department of Defense |
| Dr. | Granboulan | Louis | Airbus DS SLC | Airbus DS SLC |
| Miss | Guo | Ivy | Apple (UK) Limited | Apple Poland Sp. z.o.o. |
| Mr. | Guo | Longhua | HUAWEI TECH. GmbH | HiSilicon Technologies Co. Ltd |
| Mr. | Gupta | Varini | Samsung R&D Institute India | Samsung R&D Institute UK |
| Mr. | Hanhisalo | Markus | Ericsson LM | L.M. Ericsson Limited |
| Mr. | Heldenbrand | Rob | Hewlett-Packard Enterprise | Hewlett-Packard Enterprise |
| Miss | Huang | Xiaoting | China Mobile Com. Corporation | China Mobile M2M Company Ltd. |
| Miss | Jerichow | Anja | Nokia Germany | Nokia Uk |
| Dr. | Jost | Christine | Ericsson LM | Ericsson-LG Co., LTD |
| Dr. | Keesmaat | Iko | TNO | KPN N.V. |
| Dr. | Kim | Joonwoong | LG Electronics France | LG Electronics Polska |
| Mr. | Kiss | Krisztian | Apple (UK) Limited | Apple France |
| Mr. | Kohalmi | Steve | Juniper Networks | Juniper Networks |
| Mr. | Kolekar | Abhijeet | Intel Corporation (UK) Ltd | Intel Deutschland GmbH |
| Mr. | Kumar | Lalith | Samsung R&D Institute India | Samsung Electronics GmbH |
| Dr. | Kunz | Andreas | Motorola Mobility Germany GmbH | Lenovo (Beijing) Ltd |
| Mr. | Lazara | Dominic | Motorola Solutions UK Ltd. | Motorola Solutions Danmark A/S |
| Mr. | Leadbeater | Alex | BT plc | BT plc |
| Dr. | Lee | Soo Bum | Qualcomm Incorporated | Qualcomm Wireless GmbH |
| Mr. | Lee | Xiaoyang | CISA ECD | CISA ECD |
| Dr. | Lei | Zander (Zhongding) | HuaWei Technologies Co., Ltd | Huawei Technologies Japan K.K. |
| Mr. | LI | HAIMING | China Mobile Com. Corporation | China Mobile E-Commerce Co. |
| Mr. | Li | He | Huawei Technologies Co. Ltd. | Huawei Telecommunication India |
| Mr. | Li | Weiguang | Qihoo 360 | Qihoo 360 |
| Mr. | Li | Zhijun | ZTE Corporation | ZXNE |
| Mr. | Liao | Jun | China Mobile Com. Corporation | China Mobile (Hangzhou) Inf. |
| Mr. | Liu | Yuze | ZTE Corporation | ZTE Wistron Telecom AB |
| Mr. | Lu | Fei | ZTE Corporation | ZTE Photonics |
| Miss | Lu | Wei | Nokia Korea | Nokia Hungary |
| Mr. | Mellqvist | Anders | Sony Europe Limited | Sony Europe Limited |
| Mr. | Migaldi | Scott | T-Mobile USA Inc. | T-Mobile USA Inc. |
| Dr. | Muhanna | Ahmad | Futurewei Technologies | Futurewei Technologies |
| Mr. | Nair | Suresh | Nokia Germany | Nokia |
| Mr. | Normann | Henrik Andreas | Ericsson LM | Ericsson Telecomunicazioni SpA |
| Mr. | Oishi | Tateo | Sony Europe B.V. | Sony Corporation |
| Mr. | Palanigounder | Anand | Qualcomm UK Ltd | Qualcomm Finland RFFE Oy |
| Mr. | Parambath Sasi | Nivedya | NEC Corporation | NEC Telecom MODUS Ltd. |
| Mr. | Pätzold | Thomas | Deutsche Telekom AG | Deutsche Telekom AG |
| Mrs. | Pauliac | Mireille | THALES | THALES |
| Mr. | PENG | Jin | ZTE Corporation | Nubia Technology Co.,Ltd |
| Mr. | Qi | Minpeng | China Mobile Com. Corporation | China Mobile Group Device Co. |
| Mr. | Rajadurai | Rajavelsamy | Samsung R&D Institute UK | Samsung R&D Institute India |
| Mr. | RAMASWAMY | BABU SRINIVASA KUMAR | Department of Telecom | Department of Telecom |
| Mr. | Rezaki | Ali | Nokia Germany | Nokia Poland |
| Mrs. | Rong | Wu | Huawei Technologies Co. Ltd. | Huawei Technologies Co. Ltd. |
| Mr. | RV | ANIKETHAN | Samsung R&D Institute India | Samsung Electronics Co., Ltd |
| Mr. | Schroeder | Stefan | Deutsche Telekom AG | Deutsche Telekom AG |
| Mr. | Schumacher | Greg | SPRINT Corporation | Sprint Corporation |
| Mr. | Shah | Sapan | Samsung R&D Institute India | Harman GmbH |
| Dr. | Shah | Yogendra | Perspecta Labs Inc. | Perspecta Labs Inc. |
| Mr. | Tangudu | Narendranath Durga | Samsung R&D Institute India | BEIJING SAMSUNG TELECOM R&D |
| Mr. | Thewes | Simon | ZITiS | ZITiS |
| Mr. | Tiwari | Kundan | Samsung R&D Institute India | SAMSUNG R&D INSTITUTE JAPAN |
| Ms. | Trakinat | Jean | T-Mobile USA Inc. | T-Mobile USA Inc. |
| Dr. | Tsiatsis | Vlasios | Ericsson LM | Ericsson India Private Limited |
| Mr. | Vujcic | Dragan | IDEMIA | IDEMIA |
| Dr. | Wan | Tao | CableLabs | CableLabs |
| Miss | Wang | Haimei | CAICT | CAICT |
| Mr. | Whorlow | Colin | NCSC | HOME OFFICE |
| Mr. | Wong | Curt | Charter Communications, Inc | Charter Communications, Inc |
| Mr. | Wong | Marcus | Futurewei Technologies | Futurewei Technologies |
| Dr. | Wong | Stan | GSM Association | GSM Association |
| Mr. | Woodward | Tim | Motorola Solutions Danmark A/S | Motorola Solutions Germany |
| Miss | Xu | Hui | CATT | CICT |
| Miss | Yan | Xiaojian | ZTE Corporation | ZONSON |
| Mrs. | Yang | Hongmei | CAICT | CAICT |
| Mr. | Yoshizawa | Taka | NEC Europe Ltd | NEC Corporation |
| Dr. | Zhang | Bo | Huawei Technologies Co. Ltd. | HuaWei Technologies Co., Ltd |
| Miss | Zhang | Xiaowei | Deutsche Telekom AG | Deutsche Telekom AG |
| Ms. | ZHAO | BEI | China Mobile Com. Corporation | CMDI |
| Mr. | Zhou | Wei | CATT | CATT |
| Miss | Zhou | Xingyue | ZTE Corporation | ShenZhen Zhongxing Shitong |
| Dr. | Zugenmaier | Alf | NTT DOCOMO INC. | DOCOMO Communications Lab. |

## Annex H: List of future meetings

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| --- | --- | --- | --- | --- | --- |
| Title | Start date | End date (OP) | Town | Country | Reference |
| SA3#97 | 2019-11-18 | 2019-11-22 | Reno | US | S3-97 |
| SA3#98 | 2020-02-10 | 2020-02-14 | Guangzhou | CN | S3-98 |