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

**Meeting Report  
for  
TSG SA WG3  
meeting: 97**

**Reno, US, 18/11/2019 to 22/11/2019**

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## 1 Opening of the Meeting

The Chairman, Noamen Ben Henda, welcomed the delegates to Reno. He took the opportunity to thank the vice chairmen for their outstanding work during their three terms, given that this meeting was bringing in elections for the two vice chairmen positions.

## 2 Approval of Agenda and Meeting Objectives

**S3-193900 Agenda**

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

**Decision:** The document was **revised to S3-194442**.

**S3-194442 Agenda**

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

(Replaces S3-193900)

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

## 3 IPR Anti-Trust Law and other Reminders

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.

The Chairman also read the Statement Regarding Engagement with Companies Added to the U.S. Export.

## 4 Meeting Report

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

**S3-193901 Report from SA3#96**

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

**Discussion:**

Approved with an editorial change in tdoc 2862 as commented by Qualcomm. (AS instead of AES). This will be corrected in the final version uploaded to the 3GPP server.

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

**S3-193902 Report from SA3#96Ad-Hoc**

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

**Discussion:**

MCC thanked the SA3 leadership for taking care of MCC tasks during the ad-hoc.

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

### 4.2 Report from SA plenary

**S3-193904 Report from last SA meeting**

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

**Discussion:**

Huawei asked when SA3 was going to start working on Release 17. The Chair answered that the release 17 work was based on the prioritization done in SA2, so SA3's work would depend on their progress.

Vodafone asked about items such as SBA. Can SBA be classed as release 16? The Chair answered that it was release 16.

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

### 4.3 Report from SA3-LI

Alex (BT) gave a report on SA3-LI progress. No notes were provided for the meeting report.

## 5 Items for early consideration

### 5.1 Output of SA3#96-Ad hoc

**S3-194352 Security requirements for UP Gateway Function**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0688 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell, Juniper*

**Abstract:**

Security requirements for UP Gateway Function

**Discussion:**

This CR will go together with the UP Gateway Function new WID that goes to the next SA plenary. That’s why it has the DUMMY WID code.

The baseline was agreed and new changes would be merged into the revision.

**Decision:** The document was **revised to S3-194443**.

**S3-194443 Security requirements for UP Gateway Function**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0688 rev 1 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell, Juniper*

(Replaces S3-194352)

**Discussion:**

This CR will go together with the UP Gateway Function new WID that goes to the next SA plenary. That’s why it has the DUMMY WID code.

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

**S3-194355 Protection of N9 interface**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0689 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell, Juniper Networks*

**Abstract:**

Protection of N9 interface

**Discussion:**

This CR will go together with the UP Gateway Function new WID that goes to the next SA plenary. That’s why it has the DUMMY WID code.

The baseline was agreed and new changes would be merged into the revision.

**Decision:** The document was **revised to S3-194444**.

**S3-194444 Protection of N9 interface**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0689 rev 1 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell, Juniper Networks*

(Replaces S3-194355)

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

**S3-194356 New WID for User Plane Gateway Function for the Inter-PLMN Security**

*Type: WID new For: Agreement  
 Source: Juniper Networks*

**Discussion:**

Vodafone asked if the date was realistic, but Juniper was not confident and the date was proposed to be changed to March 2020. It was kept open for discussion whether to move it to this date.

**Decision:** The document was **revised to S3-194445**.

**S3-194445 New WID for User Plane Gateway Function for the Inter-PLMN Security**

*Type: WID new For: Agreement  
 Source: Juniper Networks*

(Replaces S3-194356)

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

**S3-194359 Security requirements for SeCoP**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0692 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Security requirements for SeCoP

**Decision:** The document was **revised to S3-194446**.

**S3-194446 Security requirements for SeCoP**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0692 rev 1 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194359)

**Discussion:**

Agreed baseline but Ericsson proposed new changes for a revision.

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

**S3-194361 Authentication and authorization between SeCoP and network functions**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0693 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Authentication and authorization between SeCoP and network functions

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

**S3-194363 Authentication and authorization between SeCoPs**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0694 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Authentication and authorization between SeCoPs

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

**S3-194378 Update to 5G\_eSBA WID**

*Type: WID revised For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Update to 5G\_eSBA

**Discussion:**

Kept open in order to discuss the dates.

**Decision:** The document was **revised to S3-194600**.

**S3-194600 Update to 5G\_eSBA WID**

*Type: WID revised For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194378)

**Discussion:**

Changed to March 2020.

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

**S3-194401 NPN clarifications**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0701 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell,Qualcomm*

**Discussion:**

Vodafone: the change in I.2.1 makes it too broad. Other groups have misinterpreted our specification for this reason.

The Chair commented that this was heavily discussed in the previous meeting.

Nokia added that this referred to clauses I.2.2 and I.2.3.

Qualcomm added that this was not normative but an introduction to other clauses. Vodafone withdrew their comment.

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

**S3-194402 Removal of ed.note on conformance tests**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0702 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell,Qualcomm*

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

**S3-194405 Annex 5GLAN**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0704 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-194428**.

**S3-194427 Security for TSC service**

*Type: discussion For: Information  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This is the CR S3-193707 as agreed in last meeting for reference. It is uploaded for information, because it is proposed in S3-194406 to update the previous draftCR by adding an additional headline, which allows a better structuring of the clause.

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

**S3-194406 Annex TSC security intro**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0705 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-194428 Annex 5GLAN**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0704 rev 1 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194405)

**Abstract:**

This is an update of endorsed CR by adding 2 headlines to provide structure in this Annex.

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

### 5.2 Other items

## 6 Reports and Liaisons from other Groups

### 6.1 3GPP Working Groups

**S3-193934 LS on AS key derivation for conditional handover**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: R2-1911565*

**Discussion:**

Related contributions: 4055, 4025.

**Decision:** The document was **replied to in S3-194447**.

**S3-193969 33501-CR on CHO key derivation**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0661 Cat: C (Rel-16)  
  
 Source: Apple*

**Discussion:**

Nokia: add reference to RAN2 spec. Huawei supported this.

Christine (Ericsson): wait for the reply, we don’t need to make the changes now.

Qualcomm didn’t agree with having the second change as RAN2 was still working on this topic. Wait for their reply.

**Decision:** The document was **revised to S3-194448**.

**S3-194448 33501-CR on CHO key derivation**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0661 rev 1 Cat: C (Rel-16)  
  
 Source: Apple*

(Replaces S3-193969)

**Discussion:**

Postponed in order to add more details: Key derivation in CHO needs to be addressed in the specification.

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

**S3-193935 LS on impact on UTRAN of 5G SRVCC**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: R2-1911753*

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

**S3-193937 LS on misalignment in Counter Check Procedure**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: R2-1911837*

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

**S3-194357 Updates to Counter Check Procedure (Rel-15)**

*Type: CR For: Approval  
 33.501 v15.6.0 CR-0690 Cat: C (Rel-15)  
  
 Source: Samsung*

**Discussion:**

Ericsson didn’t agree with this change.

Huawei: change from shall not to "should not".

Samsung insisted on an existing misalignment with RAN2. There is no benefit with having the removed the sentence according to Samsung. Qualcomm supported Samsung.

Alf (NTT-Docomo): just add a note with a clarification.

MCC asked if this should be cat-F and Samsung replied that it could be and that a mirror was submitted to this meeting as well. Ericsson commented that this should not be changed in Release 16, so this was taken offline.

**Decision:** The document was **revised to S3-194449**.

**S3-194449 Updates to Counter Check Procedure (Rel-15)**

*Type: CR For: Approval  
 33.501 v15.6.0 CR-0690 rev 1 Cat: F (Rel-15)  
  
 Source: Samsung*

(Replaces S3-194357)

**Discussion:**

Mirror in 358.

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

**S3-193942 LS on security for multi-CU-UP connectivity**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to S3-194450, cc -  
 Source: R3-194784*

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

**S3-194138 Discussion on Security of Multi-CU-UP connectivity**

*Type: discussion For: Decision  
 Source: CATT*

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

**S3-194056 Discussion on LS R3-194784 on Disaggregated CU-UPs in different security domains**

*Type: discussion For: Endorsement  
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-194139 LS reply to RAN WG3 LS on security for multi-CU-UP connectivity**

*Type: LS out For: Approval  
 to RAN3  
 Source: CATT*

**Discussion:**

CATT: it's too late for Release 16 from our point of view. NTT-Docomo didn’t find the text in LS very clear.

Qualcomm: the UE is not aware of where the user plane ends, it's handled by the RAN. SA3 needs to study this anyway, as the current architecture is not sufficient; and that's what we need to reply to them. Nokia: study item for this? It's a simple change. Qualcomm replied that this could have a significant impact on the RAN.

NTT-Docomo: network side security domain could be affected as well, so this is not so simple. They proposed to take this offline to study the consequences.

CATT added that RAN3 was planning to do a WID in Release 17 about this topic.

**Decision:** The document was **revised to S3-194450**.

**S3-194450 LS reply to RAN WG3 LS on security for multi-CU-UP connectivity**

*Type: LS out For: Approval  
 to RAN3  
 Source: CATT*

(Replaces S3-194139)

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

**S3-193944 Reply LS on LS on the IAB-indication to core network**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1910281*

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

**S3-193951 LS on Enhancing Location Information Reporting with Dual Connectivity**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S3i190671*

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

**S3-193957 N9HR Regulatory Obligations**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S3i190548*

**Discussion:**

ORANGE: gNode B encrypts the traffic in the visited network, why encrypting this in the UPF?

BT: we have to turn off the encryption in the UPF for LI reasons. It would be nice to turn that back on.

Amelia (Article 19): countries cooperating with each other, law enforcement, better than a technical solution like this.

BT: make the security hole smaller would be preferable for us.

ORANGE: I prefer to have a paper explaining the issues better.

It was decided to note the document since the next step would be a Study Item.

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

**S3-193958 LS on security consideration of performance measurement function protocol**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: C1-196940*

**Discussion:**

There were companies supporting either replying (something is needed)

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

**S3-194451 Reply to: LS on security consideration of performance measurement function protocol**

*Type: LS out For: approval  
 to CT1  
 Source: ZTE*

**Discussion:**

No consensus. Apple asked to have in the minutes:

"Apple strongly insists that the current security existing mechanism is NOT sufficient to address the security issue that 3rd part application could modify the PMF packet."

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

**S3-193949 Reply LS on UP gateway function on the N9 interface**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1910808*

**Decision:** The document was **replied to in S3-194452**.

**S3-193989 Reply LS on UP gateway function on the N9 interface**

*Type: LS out For: (not specified)  
 to SA2  
 Source: Juniper Networks*

**Discussion:**

Nokia: not mandatory for us to follow SA2 guidelines. They didn't agree with removing their description. Nokia supported a reply LS, but this needed some reshaping. Ericsson had a similar position; better not to go against SA2.

**Decision:** The document was **revised to S3-194452**.

**S3-194452 Reply LS on UP gateway function on the N9 interface**

*Type: LS out For: -  
 to SA2  
 Source: Juniper Networks*

(Replaces S3-193989)

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

**S3-193966 draft Reply LS\_on\_CHO key derivation**

*Type: LS out For: Approval  
 to RAN2, cc RAN3  
 Source: Apple*

**Discussion:**

Ericsson, Qualcomm: remove the last sentence from the LS. This was taken offline.

**Decision:** The document was **revised to S3-194447**.

**S3-194447 Reply LS\_on\_CHO key derivation**

*Type: LS out For: Approval  
 to RAN2, cc RAN3  
 Source: Apple*

(Replaces S3-193966)

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

**S3-193967 Discussion on Consecutive CHO key derivation**

*Type: discussion For: Endorsement  
 Source: Apple*

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

**S3-193970 Discussion on PMF Protocol Security**

*Type: discussion For: Endorsement  
 Source: Apple*

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

**S3-193971 draft reply LS on security consideration of PMF**

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

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

**S3-194025 Discussion on CHO key derivation**

*Type: discussion For: Endorsement  
 Source: Apple*

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

**S3-194055 Discussion paper on LS (R2-1911565) on AS key derivation for Conditional Handovertional**

*Type: discussion For: Endorsement  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

Nokia: it's aligned with SA3 work, no changes need to be made. The discussion was taken in the CR proposed by Apple.

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

**S3-194057 Discussion paper on PMF protocol security S3-193680**

*Type: discussion For: Endorsement  
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-194064 LS on security consideration of performance measurement function protocol**

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

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

**S3-194336 Reply LS on PMF**

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

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

**S3-193987 Introduction of the Inter PLMN UP security function in the architecture**

*Type: discussion For: Decision  
 Source: Deutsche Telekom AG*

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

**S3-194431 Nokia comments on S3-193970 PMF protocol security**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

Apple: Nokia agrees on the attack and sees no standardization needed? We disagree.

Lenovo supported the Apple contribution.

Futurewei: application impacting on the UE is out of standardization scope as we concluded in the IoT work item.

Qualcomm: no UP integrity protection in LTE. We don’t see the need for new security mechanisms, existing ones are sufficient. ZTE supported this.

There was no consensus on the need for sending a reply LS.

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

**S3-194434 LS on Application Architecture for enabling Edge Applications**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: S6-192399*

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

**S3-194435 LS on native 5G NAS security context activation**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: C1-199003*

**Discussion:**

Qualcomm: leave it to the AMF to decide. Stick to the top highlighted text.

Huawei: Our assumption is to use the native security context as much as possible.

It was commented that CT1 was meeting after SA3's next meeting, so it was decided to postpone an answer.

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

**S3-194436 LS on GUTI allocation for MT-EDT in 5G CIoT**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: C1-199005*

**Discussion:**

Huawei: we need to discuss this offline, as it implies that MT-EDT might not be needed at all.

Qualcomm: how to allocate the GUTI is not in our scope. The utility of this feature is up to other working groups, not to us.

Ericsson: we have studied this and we think that the re-allocation is not needed.

This had to be taken offline.

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

**S3-194666 Reply to: LS on GUTI allocation for MT-EDT in 5G CIoT**

*Type: LS out For: approval  
 to CT1  
 Source: Ericsson*

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

**S3-194437 LS on Use of 3gpp-Sbi-Target-apiRoot header in HTTP requests from NFs to SEPP**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: C4-195375*

**Discussion:**

This needed some offline discussion.

**Decision:** The document was **replied to in S3-194453**.

**S3-194453 Reply to: LS on Use of 3gpp-Sbi-Target-apiRoot header in HTTP requests from NFs to SEPP**

*Type: LS out For: approval  
 to CT4  
 Source: Nokia*

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

**S3-194438 Reply LS on GTP Recovery Counter & GSN node behaviour**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: C4-195518*

**Discussion:**

No action for SA3.

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

**S3-194439 LS on ARPF in UDICOM**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: C4-195553*

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

**S3-194440 LS on usage of IMSI during 3GPP based authentication**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: C4-195574*

**Discussion:**

Lenovo: we think that nothing needs to be done for this scenario.

Qualcomm: Blackberry brought a CR for our previous meeting related to this. SUPI privacy can be compromised, but it's up to the implementers to decide if this can happen, and it should not be specified in our standards.

Nokia: this is a mix of 4G and 5G. We should reply because CT4 has a CR pending.

**Decision:** The document was **replied to in S3-194454**.

**S3-194454 Reply to: LS on usage of IMSI during 3GPP based authentication**

*Type: LS out For: approval  
 to CT4, cc SA2,CT1  
 Source: Nokia*

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

**S3-194441 LS on user identity when 5G-AKA or EAP AKA’ is used for SNPN**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: C6-190468*

**Decision:** The document was **replied to in S3-194455**.

**S3-194455 Reply to: LS on user identity when 5G-AKA or EAP AKA’ is used for SNPN**

*Type: LS out For: approval  
 to CT6,SA2,CT1  
 Source: Samsung*

**Discussion:**

Disagreement on the statement that if NSI is being present in the USIM, the IMSI stored in the USIM can be used by the ME to derive the NSI.Samsung, IDEMIA in favour, Orange and Qualcomm against.

Qualcomm: The disagreement lies in two SUPIs in the same USIM. SA2 has no use case for this.

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

### 6.2 IETF

Meeting the same week as SA3.

### 6.3 ETSI SAGE

**S3-193950 256 bit radio interface algorithm performance**

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

**Discussion:**

CATT: the question depends on the implementation, so it's hard to have a reply. Dedicated hardware needs to be used to achieve the required performance. We should focus on the security algorithm itself and not in its performance.

Apple supported CATT: don’t focus on performance issues.

Vodafone replied that there are criteria that needed to be taken into account by SAGE. SA3 could very well reply that it is up to them to decide on these parameters. Alex (BT) reminded that HTTP digest and IPSec had a similar issue in the past, and SA3 chose not to intervene so this lead to implementation problems.

**Decision:** The document was **replied to in S3-194456**.

**S3-194288 [DRAFT] Reply to: 256 bit radio interface algorithm performance**

*Type: LS out For: Approval  
 to ETSI SAGE  
 Source: Ericsson*

**Discussion:**

CATT didn’t fully agree with the commodity hardware statement.

Qualcomm: from UE perspective, this doesn’t preclude that SAGE can find other algorithms. Apple wanted to add this clarification.

Vodafone: this is implied in all their work, we don’t need to add this clarification to every LS for them.

NTT-Docomo: what is "commodity hardware" here? Replace it with something else. CATT agreed.

CATT: don’t rule out hardware solutions.

Apple wanted to add a sentence on the choosing of algorithms. Vodafone found obvious the process and there wasn't any need of stating this. Vodafone explained that SA3 went to SAGE, who provides with algorithms that fulfil SA3's requirements. SA3 is the one choosing the algorithms, not SAGE.

**Decision:** The document was **revised to S3-194456**.

**S3-194456 Reply to: 256 bit radio interface algorithm performance**

*Type: LS out For: Approval  
 to ETSI SAGE  
 Source: Ericsson*

(Replaces S3-194288)

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

**S3-194334 Reply LS to SAGE on 256-bit algorithms**

*Type: LS out For: Approval  
 to ETSI SAGE  
 Source: Qualcomm Incorporated*

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

**S3-194534 256 bit algorithm candidates**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: ETIS SAGE*

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

### 6.4 GSMA

### 6.5 TCG

**S3-193910 TCG progress - report from TCG rapporteur**

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

**Abstract:**

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

**Discussion:**

Publication of new or revised deliverables (incremental changes from the status reported at SA3#96).

• TCG Mobile Device Runtime Integrity Preservation – publication November 2019. The following public URL is available starting on 11/11/2019: https://trustedcomputinggroup.org/resource/tcg-runtime-integrity-preservation-in-mobile-devices/

• TCG TPM 2.0 Mobile Command Response Buffer Errata – publication November 2019

• TCG Trusted Attestation Protocol (TAP) Use Cases – publication November 2019

• TCG TSS 2.0 Overview and Common Structures – published October 2019

• TCG TSS 2.0 Feature API (FAPI) – public review October 2019

• TCG TSS 2.0 JSON Datatypes and Policy Language – public review October 2019

• TCG TPM 2.0 Authenticated Countdown Timer (ACT) Command – public review October 2019

• TCG Platform Certificate Profile – public review October 2019

• TCG PC Client Specific TPM Protection Profile (PTP) – public review October 2019

• TCG Trusted Attestation Protocol (TAP) Info Model – published September 2019

• TCG TSS 2.0 Enhanced System Level API (ESAPI) – published September 2019

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

• TCG Guidance for Secure Update of S/W and F/W – public review August 2019

• TCG RIV: Network Equipment Remote Attestation – public review June 2019 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

2. Meetings

• 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

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

### 6.6 OneM2M

### 6.7 TC-CYBER

Colin (NCSC) gave an update on TC CYBER, who had met the week before.

TC Cyber met last week. Main items of interest are:

New Work Items:

- Baseline Security for Telecommunications for Operators (Fixed and Mobile)

- Security and Evaluation Requirements for Consumer Mobile Device

- e-Voting Cybersecurity

The European Standard on Securing Consumer IOT (EN 303 645) was approved within TC Cyber. Now it needs to go to National Standards Organisations to be voted on. Work on the test specification for this document is now underway too.

Also – ETSI has created a new group to look at Securing Artificial Intelligence – ISG SAI. This address 3 aspects of AI in the standards domain:

1. Securing AI from attack e.g. where AI is a component in the system that needs defending.

2. Mitigating against AI as a threat e.g. where AI is the ‘problem’ (or used to improve and enhance other more conventional attack vectors),

3. Using AI to enhance security measures against attack from other things e.g. AI is part of the ‘solution’ (or used to improve and enhance more conventional countermeasures).

### 6.8 ETSI NFV

Alex (BT) gave an update on ETSI NFV's work. Two new WIDs had been created:

- Container's security.

- Security Management framework

### 6.9 CVDs and Research

**S3-194063 Top research papers published in 2019 on 4G and 5G security**

*Type: discussion For: Information  
 Source: CableLabs*

**Discussion:**

CableLabs encouraged delegates to inform on similar papers presented in other conferences.

Vodafone: dangerous precedent here, especially if we show papers that haven't been properly reviewed. There is an established process in 3GPP CVD for this. We need a filter in advance to this.

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

### 6.10 Other Groups

**S3-193932 LS on O-RAN Alliance & 3GPP Coordination on O-RAN Alliance Outputs**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: O-RAN Alliance*

**Discussion:**

Nokia: there is no security group in O-RAN, so we don’t know what they are asking us to do.

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

**S3-193933 Reply LS to “O-RAN Alliance & 3GPP Coordination on O-RAN Alliance Outputs”**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: SP-190947*

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

**S3-193952 LS on SG17 new work item X.sles “Security measures for location enabled smart office services”**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: ITU-T SG17*

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

**S3-193954 LS on status of draft Recommendation ITU-T Q.SR-Trust “Signalling requirements and architecture for interconnection between trustable network entities”**

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

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

**S3-193955 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: SP-190586*

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

## 7 Work Areas

### 7.1 Security aspects of 5G System - Phase 1 (Rel-15)

**S3-193946 LS Response Reply LS on support of non-3GPP only UE and support for PEI in IMEI format**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1910679*

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

**S3-193947 LS Response on Security Aspects of AMF Re-allocation Procedure**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1910724*

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

**S3-193978 Issue of re-authentication when AMF re-allocation via NAS reroute**

*Type: discussion For: Endorsement  
 Source: vivo, Apple*

**Abstract:**

issue with target AMF performing re-auth based on local policy

**Discussion:**

Nokia: against SA2 decision.

There was no agreement as Nokia and Qualcomm were against it. There was no issue for them.

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

**S3-194027 Horizontal derivation when AMF re-allocation**

*Type: CR For: Approval  
 33.501 v15.6.0 CR-0662 Cat: F (Rel-15)  
  
 Source: Apple, vivo*

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

**S3-194031 CR-R16-Horizontal derivation when AMF re-allocation**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0664 Cat: A (Rel-16)  
  
 Source: Apple, vivo*

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

**S3-194065 Considerations on security handling of registration with AMF re-allocation**

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

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

**S3-194066 Security handling in registration with AMF re-allocation**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0665 Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

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

**S3-194196 Clarification on AMF reallocation via direct NAS reroute for Rel-15**

*Type: CR For: Approval  
 33.501 v15.6.0 CR-0670 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm: we are adding new functionality in the UE and we don’t agree with that.

ZTE: changes should go to Release 16 only.

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

**S3-194197 Clarification on AMF reallocation via direct NAS reroute for Rel-16**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0671 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**S3-194198 Clarification on primary authentication in direct NAS reroute for Rel-15**

*Type: CR For: Approval  
 33.501 v15.6.0 CR-0672 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194691**.

**S3-194691 Clarification on primary authentication in direct NAS reroute for Rel-15**

*Type: CR For: Approval  
 33.501 v15.6.0 CR-0672 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-194198)

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

**S3-194199 Clarification on primary authentication in direct NAS reroute for Rel-16**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0673 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194692**.

**S3-194692 Clarification on primary authentication in direct NAS reroute for Rel-16**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0673 rev 1 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon,ZTE*

(Replaces S3-194199)

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

**S3-194315 Solving AMF re-allocations issues for via the RAN**

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

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

**S3-194420 Comments on S3-194315**

*Type: discussion For: Discussion  
 Source: HUAWEI TECHNOLOGIES Co. Ltd.*

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

**S3-194195 Solving registration failure in registration procedure with AMF reallocation**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0669 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm didn’t see any advantages in this proposal.

Nokia wanted to wait for SA2's discussions.

All agreed on having an issue for Release 16. The Chair asked if SA3 needed to wait for SA2's progress and Huawei strongly disagreed. This had to be taken offline.

NTT-Docomo: Rel-15 UEs that end up in the wrong place? What do we do about them? Non-backward compatible changes are a cause for concern.

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

**S3-194076 Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility**

*Type: CR For: (not specified)  
 33.501 v15.6.0 CR-0666 Cat: F (Rel-15)  
  
 Source: Intel Corporation (UK) Ltd*

**Decision:** The document was **revised to S3-194458**.

**S3-194458 Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility**

*Type: CR For: -  
 33.501 v15.6.0 CR-0666 rev 1 Cat: F (Rel-15)  
  
 Source: Intel Corporation (UK) Ltd*

(Replaces S3-194076)

**Discussion:**

Qualcomm wanted to add in the cover sheet that it is not a change of behaviour of the ME but for alignment.

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

**S3-194293 Idle mode mobility from 5GS to EPS**

*Type: CR For: Agreement  
 33.501 v15.6.0 CR-0679 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Discussion:**

Huawei: not needed. The first change is a default rule that everybody knows.

Ericsson: everybody in SA3 but not outside this group.

Huawei: clause 8.6.1 already describes that, why repeat? Nokia supported that this change was not necessary.

There was no support for this CR.

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

**S3-194294 Idle mode mobility from 5GS to EPS**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0680 Cat: A (Rel-16)  
  
 Source: Ericsson*

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

**S3-194295 Idle mode mobility from EPS to 5GS**

*Type: CR For: Agreement  
 33.501 v15.6.0 CR-0681 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Discussion:**

MCC: NOTE 2 contains normative language and that needs to be changed.

Huawei had also some issues and this was taken offline.

**Decision:** The document was **revised to S3-194460**.

**S3-194460 Idle mode mobility from EPS to 5GS**

*Type: CR For: Agreement  
 33.501 v15.6.0 CR-0681 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-194295)

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

**S3-194282 AMF re-allocation**

*Type: discussion For: Endorsement  
 Source: Ericsson*

**Discussion:**

Huawei: SA2 is waiting for SA3's feedback, and SA3 is waiting for SA2's feedback. We are playing ping pong here.

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

**S3-194296 Idle mode mobility from EPS to 5GS**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0682 Cat: A (Rel-16)  
  
 Source: Ericsson*

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

**S3-194461 Idle mode mobility from EPS to 5GS**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0682 rev 1 Cat: A (Rel-16)  
  
 Source: Ericsson*

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

**S3-194358 Updates to Counter Check Procedure (Rel-16)**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0691 Cat: A (Rel-16)  
  
 Source: Samsung*

**Decision:** The document was **revised to S3-194601**.

**S3-194601 Updates to Counter Check Procedure (Rel-16)**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0691 rev 1 Cat: A (Rel-16)  
  
 Source: Samsung*

(Replaces S3-194358)

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

**S3-194111 Add Missing Procedure for Security Handling for RRCConnectionRe-establishment Procedure**

*Type: CR For: Approval  
 33.501 v15.6.0 CR-0667 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm: we have this supported in LTE, so why do we need to repeat it for 5G as well?

This was taken offline.

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

**S3-194462 Add Missing Procedure for Security Handling for RRCConnectionRe-establishment Procedure**

*Type: CR For: Approval  
 33.501 v15.6.0 CR-0667 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

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

**S3-194112 Mirror for Adding Missing Procedure for Security Handling for RRCConnectionRe-establishment Procedure**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0668 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**S3-194142 Discussion on the Xn-Handover message**

*Type: discussion For: Decision  
 Source: CATT*

**Discussion:**

This was kept open until RAN3 had discussed the issue during the week and confirm the scenario.

CATT got feedback from RAN3: it was considered a rare case and the final decision was to be taken by SA3.

It was finally noted but further action will be taken in the next meeting.

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

**S3-194321 CR on clarification of ARFCN in KgNB derivation**

*Type: CR For: Agreement  
 33.501 v15.6.0 CR-0685 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated, Nokia, Nokia Shanghai Bell*

**Discussion:**

Huawei: just put the reference.

Qualcomm: better to give more information. The description would not be self-contained.

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

**S3-194322 CR on clarification of ARFCN in KgNB derivation**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0686 Cat: A (Rel-16)  
  
 Source: Qualcomm Incorporated, Nokia, Nokia Shanghai Bell*

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

**S3-194298 Error handling against violation of the basic validation rules**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0683 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes to add the action for the SEPP to taken when detecting a violation of the basic validation rules in sub-clause 13.2.3.4.

**Discussion:**

Ericsson pointed out that this should go to Release 15.

It was clarified that this was pointing to the Release 15 functionality of the SEPP.

It was commented that the editor's note already appeared in the SCAS spec.

This had to be taken offline.

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

**S3-194134 Amendment on 4.2.2.1.2 on AMF**

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

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

**S3-194457 Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0708 Cat: A (Rel-16)  
  
 Source: Intel*

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

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

**S3-194224 Fix some reference numbers**

*Type: CR For: Approval  
 33.511 v16.1.0 CR-0008 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**S3-194342 33.511 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.511 v16.1.0 CR-0010 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes some essential corrections for clean-up and alignment.

**Discussion:**

Overlapping with 223 and 270.

The editor's notes were challenged and it was suggested to have an action point instead. Futurewei suggested to convert it into a note.

Ericsson preferred to remove the editor's note and minute that the threat reference had to be replaced.

Ericsson suggested: Some of the threat references are not applicable to the requirements and they need to be replaced with new threat references that are applicable.

Huawei: The whole test case needs to be revisited.

The text to be minuted was taken offline.

Futurewei: the removal of these test cases should not be brought back again. This has come several times already.

Nokia asked to minute the following comment:

"The threats referenced in sub-clauses 4.2.2.1.1, 4.2.2.1.2, 4.2.2.1.4, 4.2.2.1.5 4.2.2.1.6, 4.2.2.1.7, 4.2.2.1.8, and 4.2.2.1.9 are not applicable to the requirements to be tested, and need to be replaced with new threats to be captured in TR 33.926".

**Decision:** The document was **revised to S3-194473**.

**S3-194473 33.511 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.511 v16.1.0 CR-0010 rev 1 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194342)

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

**S3-194131 Adding some evidence**

*Type: CR For: Approval  
 33.511 v16.1.0 CR-0006 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**S3-194223 Update test cases for gNB SCAS**

*Type: CR For: Approval  
 33.511 v16.1.0 CR-0007 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194474**.

**S3-194474 Update test cases for gNB SCAS**

*Type: CR For: Approval  
 33.511 v16.1.0 CR-0007 rev 1 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-194223)

**Discussion:**

Revised to address an editorial change: removal of automatic bullet lists.

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

**S3-194270 Test cases referring to TS 33.117**

*Type: CR For: Agreement  
 33.511 v16.1.0 CR-0009 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Discussion:**

Huawei and CATT objected to this CR.

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

**S3-194133 Fix the threat reference numbers for AMF**

*Type: CR For: Approval  
 33.512 v16.0.0 CR-0002 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Overlap with 343.

Tdoc number on the cover is wrong.

Nokia asked to be minuted:

Nokia asked to be minuted the following comment:

"The threat referenced in sub-clause 4.2.2.3.1 is not applicable to the requirement to be tested, and needs to be replaced with a new threat to be captured in TR 33.926".

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

**S3-194343 33.512 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.512 v16.0.1 CR-0004 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes some essential corrections for clean-up and alignment.

**Decision:** The document was **revised to S3-194475**.

**S3-194475 33.512 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.512 v16.0.1 CR-0004 rev 1 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell,Huawei*

(Replaces S3-194343)

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

**S3-194132 Modify the message names**

*Type: CR For: Approval  
 33.512 v16.0.0 CR-0001 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**S3-194344 33.513 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.513 v16.0.1 CR-0002 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes some essential corrections for clean-up and alignment.

**Discussion:**

Overlap with 135.

**Decision:** The document was **revised to S3-194476**.

**S3-194476 33.513 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.513 v16.0.1 CR-0002 rev 1 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell,Huawei*

(Replaces S3-194344)

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

**S3-194135 Fix the threat reference numbers for UPF**

*Type: CR For: Approval  
 33.513 v16.0.0 CR-0001 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**S3-194345 33.514 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.514 v16.0.1 CR-0001 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes some essential corrections for clean-up and alignment.

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

**S3-193907 Alignment with TR 33.926**

*Type: CR For: Agreement  
 33.515 v16.0.1 CR-0001 Cat: F (Rel-16)  
  
 Source: Futurewei Technologies*

**Abstract:**

Alignment with TR 33.926

**Discussion:**

Overlap with 908,347.

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

**S3-193908 Reference Correction**

*Type: CR For: Agreement  
 33.515 v16.0.1 CR-0002 Cat: F (Rel-16)  
  
 Source: Futurewei Technologies*

**Abstract:**

Correct reference in Clause 3

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

**S3-193909 Adding missing abbreviations**

*Type: CR For: Agreement  
 33.515 v16.0.1 CR-0003 Cat: F (Rel-16)  
  
 Source: Futurewei Technologies*

**Abstract:**

Adding missing abbreviations

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

**S3-194347 33.515 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.515 v16.0.1 CR-0004 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes some essential corrections for clean-up and alignment.

**Decision:** The document was **revised to S3-194477**.

**S3-194477 33.515 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.515 v16.0.1 CR-0004 rev 1 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell,Futurewei*

(Replaces S3-194347)

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

**S3-194348 33.516 Corrections for alignment**

*Type: CR For: Approval  
 33.516 v16.0.1 CR-0001 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes some essential corrections for alignment.

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

**S3-194349 33.517 Adding abbreviations and corrections for alignment**

*Type: CR For: Approval  
 33.517 v16.0.1 CR-0001 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes to add the abbreviations and corrections for alignment.

**Decision:** The document was **revised to S3-194478**.

**S3-194478 33.517 Adding abbreviations and corrections for alignment**

*Type: CR For: Approval  
 33.517 v16.0.1 CR-0001 rev 1 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194349)

**Discussion:**

Bringing back the removed editor's note.

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

**S3-194350 33.518 Adding abbreviations and corrections for alignment**

*Type: CR For: Approval  
 33.518 v16.0.1 CR-0001 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes to add the abbreviations and some corrections for alignment.

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

**S3-194067 Editorial correction in TS 33.519**

*Type: CR For: Agreement  
 33.519 v16.0.1 CR-0001 Cat: D (Rel-16)  
  
 Source: ZTE Corporation*

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

**S3-194351 33.519 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.519 v16.0.1 CR-0002 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes some essential corrections for clean-up and alignment.

**Decision:** The document was **revised to S3-194479**.

**S3-194479 33.519 Corrections for clean-up and alignment**

*Type: CR For: Approval  
 33.519 v16.0.1 CR-0002 rev 1 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell,ZTE*

(Replaces S3-194351)

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

**S3-194158 Miscellaneous Editorial clarifications in 33.926**

*Type: CR For: Approval  
 33.926 v16.1.0 CR-0029 Cat: D (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**S3-194301 33.117 Adding abbreviations and corrections for alignment**

*Type: CR For: Approval  
 33.117 v16.2.0 CR-0056 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes to add some missing abbreviations and some corrections for alignment.

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

**S3-194159 Miscellaneous Editorial clarifications in 33.117**

*Type: CR For: Approval  
 33.117 v16.2.0 CR-0055 Cat: D (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Huawei commented that there were some issues that they couldn’t fix. E.g. references such as [ef]. Huawei asked to minute that there were references that were unresolved and that anyone was welcome to fix them.

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

**S3-194157 Miscellaneous Editorial clarifications in 33.916**

*Type: CR For: Approval  
 33.916 v15.0.0 CR-0006 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Huawei wanted to point out that there were unresolved editor's notes in the specification.

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

**S3-194161 Update of clause 4**

*Type: CR For: Approval  
 33.916 v15.0.0 CR-0007 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson argued that having the text in the document was OK.Nokia supported Ericsson.

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

**S3-194419 Clarification on aspects specific to the network product class UDM and AMF**

*Type: CR For: Approval  
 33.926 v16.1.0 CR-0030 rev 1 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-194179)

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

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

**S3-193926 LS on IANA assigned values for mission critical**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: C1-195042*

**Decision:** The document was **replied to in S3-194603**.

**S3-194603 Reply to: LS on IANA assigned values for mission critical**

*Type: LS out For: approval  
 to CT1  
 Source: Motorola Solutions*

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

**S3-193930 LS on how the IWF obtains key material for interworking group and private communications**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: C1-196979*

**Discussion:**

The response will be included in the reply to tdoc 433.

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

**S3-193914 [MCXSec] 33180 R16 Missing Abbreviations (Mirror)**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0117 Cat: A (Rel-16)  
  
 Source: Airbus*

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

**S3-193915 [MCXSec] 33180 R16 Reference Addition (Mirror)**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0118 Cat: A (Rel-16)  
  
 Source: Airbus*

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

**S3-193916 [MCXSec] 33180 R16 Correction concerning IdM client (Mirror)**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0119 Cat: A (Rel-16)  
  
 Source: Airbus*

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

**S3-193995 [33.180] R16 Fix bad reference (mirror)**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0128 Cat: A (Rel-16)  
  
 Source: Motorola Solutions UK Ltd.*

**Abstract:**

Fix incorrect SRTCP session key derivation reference (mirror).

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

**S3-193996 [33.180] R16 - Consistent use of off-network**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0129 Cat: F (Rel-16)  
  
 Source: Motorola Solutions UK Ltd.*

**Abstract:**

Make language consistent with “off-network”.

**Decision:** The document was **revised to S3-194499**.

**S3-194499 Consistent use of off-network**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0129 rev 1 Cat: F (Rel-16)  
  
 Source: Motorola Solutions UK Ltd.*

(Replaces S3-193996)

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

**S3-193997 [33.180] R16 KM client to KMS security**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0130 Cat: F (Rel-16)  
  
 Source: Motorola Solutions UK Ltd.*

**Abstract:**

Add clarification for establishment of the (optional) direct secure tunnel between the KMS client and the KMS.

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

**S3-193998 [33.180] R16 - TrK ID and InK ID**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0131 Cat: F (Rel-16)  
  
 Source: Motorola Solutions UK Ltd.*

**Abstract:**

Add TrK-ID and InK-ID to the user KM authorization request.

**Decision:** The document was **revised to S3-194500**.

**S3-194500 [33.180] R16 - TrK ID and InK ID**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0131 rev 1 Cat: F (Rel-16)  
  
 Source: Motorola Solutions UK Ltd.*

(Replaces S3-193998)

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

**S3-193999 [33.180] R16 - InterSD KM record**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0132 Cat: C (Rel-16)  
  
 Source: Motorola Solutions UK Ltd.*

**Abstract:**

Add an interworking KM record which can be provisioned at user KM authorization.

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

**S3-194000 [33.180] R16 ETSI Plugtest clarifications**

*Type: CR For: Agreement  
 33.180 v16.1.0 CR-0133 Cat: F (Rel-16)  
  
 Source: Motorola Solutions UK Ltd.*

**Abstract:**

Add clarifications for HTTP Basic authentication.

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

**S3-194362 Algorithm negotiation procedure for MC Service**

*Type: CR For: Approval  
 33.180 v16.1.0 CR-0134 Cat: B (Rel-16)  
  
 Source: Samsung*

**Decision:** The document was **revised to S3-194652**.

**S3-194652 Algorithm negotiation procedure for MC Service**

*Type: CR For: Approval  
 33.180 v16.1.0 CR-0134 rev 1 Cat: B (Rel-16)  
  
 Source: Samsung,Motorola Solutions*

(Replaces S3-194362)

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

**S3-194001 LS to CT1 on 3rd ETSI MCX Remote Plugtest**

*Type: LS out For: Agreement  
 to CT1, cc SA6  
 Source: Motorola Solutions UK Ltd.*

**Abstract:**

Respond to ETSI Plugtest security issue

**Decision:** The document was **revised to S3-194501**.

**S3-194501 LS to CT1 on 3rd ETSI MCX Remote Plugtest**

*Type: LS out For: Agreement  
 to CT1, cc SA6  
 Source: Motorola Solutions UK Ltd.*

(Replaces S3-194001)

**Decision:** The document was **revised to S3-194611**.

**S3-194611 LS to CT1 on 3rd ETSI MCX Remote Plugtest**

*Type: LS out For: Agreement  
 to CT1, cc SA6  
 Source: Motorola Solutions UK Ltd.*

(Replaces S3-194501)

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

**S3-194433 Reply LS on how the IWF obtains key material for interworking group and private communications**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: S6-192194*

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

**S3-194502 Minutes of the Mission Critical offline session**

*Type: report For: Information  
 Source: Qualcomm*

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

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

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

**S3-194360 Description of CAPIF reference point: 3e,4e,5e,7 and 7e**

*Type: CR For: Approval  
 33.122 v16.1.0 CR-0026 Cat: B (Rel-16)  
  
 Source: Samsung*

**Discussion:**

Tim (Motorola Solutions): we are missing CAPIF-2e's definition here.

Henrik (Ericsson): CAPIF-7e is similar to CAPIF-2e in the third paragraph.

These were agreed and addressed in the revision.

**Decision:** The document was **revised to S3-194464**.

**S3-194464 Description of CAPIF reference point: 3e,4e,5e,7 and 7e**

*Type: CR For: Approval  
 33.122 v16.1.0 CR-0026 rev 1 Cat: B (Rel-16)  
  
 Source: Samsung*

(Replaces S3-194360)

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

### 7.6 Security of URLLC for 5GS (Rel-16)

**S3-194421 living CR of URLLC**

*Type: draftCR For: (not specified)  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194467**.

**S3-194467 living CR of URLLC**

*Type: draftCR For: -  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194421)

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

**S3-194125 Clean up**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Nokia and Qualcomm didn’t agree with the change in the general clause. This had to be taken offline.

**Decision:** The document was **revised to S3-194469**.

**S3-194469 Clean up**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194125)

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

**S3-194225 Resolve EN about how to ensure the UP security policy to be the same**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Abstract:**

This contribution targets the draftCR for URLLC security

**Decision:** The document was **revised to S3-194470**.

**S3-194470 Resolve EN about how to ensure the UP security policy to be the same**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson,Huawei*

(Replaces S3-194225)

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

**S3-194122 Ensure the same setting for UP policy**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Nokia agreed with removing the editor's note but wanted some rewording of the preceding text.

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

**S3-194123 Clarification on UP security policy preconfiguration**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm didn’t see the need of the new text at all, for the "preferred" option and so on. Nokia wasn't sure about this either. Huawei added that this clarification was needed. This was taken offline.

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

**S3-194226 Resolve EN about MN being preconfigured with SN capability to perform UP IP**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Abstract:**

This contribution targets the draftCR for URLLC security

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

**S3-194124 Further clarification on UP activation status**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Nokia found that there was a lot of text here. Qualcomm preferred to have an option with minimal text.

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

**S3-194061 URLLC living CR: clarifications related to security policy**

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

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

**S3-194472 URLLC living CR: clarifications related to security policy**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell,Huawei,Ericsson*

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

**S3-194418 Comment on S3-194061**

*Type: other For: (not specified)  
 Source: Huawei, HiSilicon*

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

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

**S3-193956 LS on SUCI computation from an NSI**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: CP-192262*

**Decision:** The document was **replied to in S3-194548**.

**S3-194335 Reply LS on SUCI computation from an NSI**

*Type: LS out For: Approval  
 to CT, SA1, SA2, CT1, CT6, cc CT4, SA  
 Source: Qualcomm Incorporated*

**Discussion:**

Orange commented that the derivation still needed to be standardised. Qualcomm replied that this was up to CT4.

Thales: consider whether the identifiers are active or not. IMSI and NSI can be stored in SA6. NSI can be activated with a defined mechanism. It is possible to have two identifiers and having one activated in SA6.

Thales: confirm that the NSI for AKA based authentication is always derived from the IMSI. Orange confirmed that.

**Decision:** The document was **revised to S3-194548**.

**S3-194548 Reply LS on SUCI computation from an NSI**

*Type: LS out For: Approval  
 to CT, SA1, SA2, CT1, CT4,CT6, cc SA  
 Source: Qualcomm Incorporated*

(Replaces S3-194335)

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

**S3-194319 Removing editor's note on capturing all the details for alternative authentication methods**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0684 Cat: F (Rel-16)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-194549**.

**S3-194549 Removing editor's note on capturing all the details for alternative authentication methods**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0684 rev 1 Cat: F (Rel-16)  
  
 Source: Qualcomm Incorporated*

(Replaces S3-194319)

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

**S3-194409 Authentication of a TSC enabled UE**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0706 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

Qualcomm: "specified in this document". We refer to requirements that are all over the document.

Orange: specify clause 6.1. This had to be taken offline.

Editorial corrections.

MCC commented: Just "UE" and not "5GS UE".

**Decision:** The document was **revised to S3-194550**.

**S3-194550 Access security for a TSC-enabled UE**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0706 rev 1 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194409)

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

**S3-194424 UP security in TSC**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0707 rev 1 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194410)

**Abstract:**

Revision for update of title to better reflect the content

**Decision:** The document was **revised to S3-194553**.

**S3-194553 UP security in TSC**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0707 rev 2 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell,Huawei*

(Replaces S3-194424)

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

**S3-194093 DraftCR\_TSC protection**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

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

**S3-194386 CAG cell access check**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Samsung*

**Discussion:**

Nokia, Huawei, Ericsson objected to this.

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

**S3-194404 CAG ID privacy**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0703 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-194164 CAG ID privacy**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Open depending on the agreements on the CAG ID privacy.

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

**S3-194410 UP security in TSC**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0707 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-194424**.

**S3-194459 Adding TSC abbreviation**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0709 Cat: D (Rel-16)  
  
 Source: Nokia*

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

### 7.8 Security of the enhancement to the 5GC location services

**S3-194150 Draft CR as a living baseline for 5GS LCS normative work**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: CATT*

**Discussion:**

Living document used as a baseline for the contributions in this meeting.

**Decision:** The document was **revised to S3-194465**.

**S3-194465 Draft CR as a living baseline for 5GS LCS normative work**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: CATT*

(Replaces S3-194150)

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

**S3-194153 Draft CR for eLCS on access point security**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: CATT*

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

**S3-194090 resolving editor's note on the move of access point**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: moving the access point is not relevant here.Huawei conceded to go for Ericsson's proposal for the resolution of the second editor's note.

Qualcomm: All release 16 Ues don’t have to support this. Clarify that it is optional.

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

**S3-194271 Resolving ENs in Draft CR as a living baseline for 5GS LCS normative work**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Discussion:**

Nokia supported this solution but didn’t see why changing "should" to "shall".

Ericsson: what to do if the UE doesn’t receive this lst? In this case the UE would not be able to send its location for emergency purposes. Nokia didn’t agree with mandating this behaviour. This was taken offline.

**Decision:** The document was **revised to S3-194466**.

**S3-194466 Resolving ENs in Draft CR as a living baseline for 5GS LCS normative work**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson,Huawei,CATT*

(Replaces S3-194271)

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

### 7.9 Security Aspects of the 5G Service Based Architecture (Rel-16)

**S3-193943 Reply LS on eSBA NF Set**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1910148*

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

**S3-194250 Editorials and corrections to Security requirements for SeCoP**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-194517**.

**S3-194517 Editorials and corrections to Security requirements for SeCoP**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

(Replaces S3-194250)

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

**S3-194367 TLS between NF and SEPP based on custom HTTP header**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0696 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

TLS between NF and SEPP based on custom HTTP header

**Decision:** The document was **revised to S3-194518**.

**S3-194518 TLS between NF and SEPP based on custom HTTP header**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0696 rev 1 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194367)

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

**S3-194256 Security for roaming interfaces in indirect communication**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0675 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Decision:** The document was **revised to S3-194519**.

**S3-194519 Security for roaming interfaces in indirect communication**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0675 rev 1 Cat: B (Rel-16)  
  
 Source: Ericsson,Nokia*

(Replaces S3-194256)

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

**S3-194370 Mutual authentication between Network Functions**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0697 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Mutual authentication between Network Functions

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

**S3-194520 Mutual authentication between Network Functions**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0697 rev 1 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-194372 NF consumer authentication by the producer in direct communication scenarios**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0698 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

NF consumer authentication by the producer in direct communication scenarios

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

**S3-194521 NF consumer authentication by the producer in direct communication scenarios**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0698 rev 1 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-194252 Using Rel-15 token-based authorization in indirect communication scenarios**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0674 Cat: B (Rel-16)  
  
 Source: Ericsson*

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

**S3-194522 Using Rel-15 token-based authorization in indirect communication scenarios**

*Type: draftCR For: Agreement  
 33.501 v16.0.0  
 Source: Ericsson*

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

**S3-194187 Service access authorization of a NF Set**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Content is moved to the CR in 523.

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

**S3-194523 Service access authorization of a NF Set**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0710 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**S3-194365 Resource Level Authorization using Access Tokens**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0695 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Resource Level Authorization using Access Tokens

**Discussion:**

Competing contribution in 261.

Huawei:The key issue in the TR (number 29) is not concluded yet.

365, 261 were taken offline since they depended on the outcome of the key issue.

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

**S3-194261 Resource Level Authorization using Access Tokens**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0676 Cat: B (Rel-16)  
  
 Source: Ericsson*

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

**S3-194659 Resource Level Authorization using Access Tokens**

*Type: draftCR For: Agreement  
 33.501 v16.0.0  
 Source: Ericsson,Nokia*

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

**S3-194430 Commenting contribution on S3-194261 – Resource Level Authorization using Access Tokens**

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

**Abstract:**

Commenting contribution on S3-194261 – Resource Level Authorization using Access Tokens

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

**S3-194262 Authorization using Access Tokens based on NF-Subtype**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0677 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Discussion:**

Nokia: the key issue is still open. This was left open depending on the outcome of the key issue.

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

**S3-194376 SBA Network Function TLS certificate profile**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0700 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

SBA Network Function TLS entity certificate profile

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

**S3-194524 SBA Network Function TLS certificate profile**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

This draftCR will be used as a baseline for discussions and it will be brought back next meeting.

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

**S3-194374 TLS entity certificate profile for SBA**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0699 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

TLS entity certificate profile for SBA

**Discussion:**

Huawei: this is too early.

BT: TLS profiles defined in 33.210 already?

MCC added that a draftCR would be more appropriate in order to introduce content with later contributions, given that this CR was just introducing empty clauses. Nokia commented that there was only one meeting left before the freeze of Release 16.

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

**S3-194251 Editorials and corrections to Protection of N9 interface**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Discussion:**

It will go to tdoc 444.

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

### 7.10 Authentication and key management for applications based on 3GPP credential in 5G (Rel-16)

**S3-194340 pCR: Adding UE – AF interface to the AKMA Reference Model**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Qualcomm Incorporated*

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

**S3-194160 Update on AKMA reference model**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: China Mobile, Nokia, Nokia Shanghai Bell*

**Discussion:**

Qualcomm: it should be an editor's note. China Mobile commented that this would mean that SA3 would have to resolve it and that wasn't necessary.

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

**S3-194127 AKMA network functions**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Overlapping with tdoc 200.

Qualcomm: we don’t need the AMF for RAN.

Vodafone: why so many network functions interfacing here? It would be an ideal point for an attack, creating a security hole. We should be cautious and connect what we absolutely need.

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

**S3-194200 Add AAnF description into clause 4.2**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: China Mobile, Nokia, Nokia Shanghai Bell*

**Discussion:**

Qualcomm: requirements should go to the requirements clause, not here.

Huawei: remove the editor's note.

**Decision:** The document was **revised to S3-194641**.

**S3-194641 Add AAnF description into clause 4.2**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: China Mobile, Nokia, Nokia Shanghai Bel, Huaweil*

(Replaces S3-194200)

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

**S3-194128 AKMA interface description**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: remove N1,N2. Qualcomm: Namf not needed for AKMA either.

**Decision:** The document was **revised to S3-194642**.

**S3-194642 AKMA interface description**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194128)

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

**S3-194129 AKMA security principles and requirements**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Orange: lifetime of the keys is operators' decision. The first sentence of the last requirement was removed.

Qualcomm and Orange didn’t agree with these requirements.

Only the last sentence went into the merge.

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

**S3-194201 Add content to clause 4.4**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: China Mobile, Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-194643**.

**S3-194643 Add content to clause 4.4**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: China Mobile, Nokia, Nokia Shanghai Bell,Huawei*

(Replaces S3-194201)

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

**S3-194272 Update of the key hierarchy**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Ericsson*

**Discussion:**

Overlapping with 341.

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

**S3-194341 pCR: pCR: Udpate of AKMA Key Hierarchy**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Qualcomm Incorporated*

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

**S3-194130 AKMA key management**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: explicit/implicit lifetime was clear in the context of the TR but not so clear here. An editor's note was added to explain these in the future.

**Decision:** The document was **revised to S3-194644**.

**S3-194644 AKMA key management**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194130)

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

**S3-194228 Clause 6.X – Deriving AKMA key during UE registration**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Nokia, Nokia Shanghai Bell, China Mobile*

**Abstract:**

Clause 6.X procedure to deriving AKMA key during UE registration

**Discussion:**

Qualcomm proposed two editor's notes on the association with the UE is FFS.

**Decision:** The document was **revised to S3-194645**.

**S3-194645 Clause 6.X – Deriving AKMA key during UE registration**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Nokia, Nokia Shanghai Bell, China Mobile*

(Replaces S3-194228)

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

**S3-194229 Clause 6.Y – Deriving AF key for a specific Application function**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: Nokia, Nokia Shanghai Bell, China Mobile*

**Abstract:**

Clause 6.Y - Deriving AF key for a specific Application Function

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

**S3-194156 Add Abbreviations to TS 33.535**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: China Mobile, Nokia, Nokia Shanghai Bell*

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

**S3-193985 End-to-end security**

*Type: pCR For: Approval  
 33.535 v0.1.0  
 Source: KPN, China Mobile*

**Abstract:**

This contribution describes end-to-end security as deployment scenario in an informative annex.

**Discussion:**

It will come back in the next meeting since it depends on other discussions.

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

**S3-194640 Draft TS 33.535**

*Type: draft TS For: Approval  
 33.535 v0.2.0  
 Source: China Mobile*

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

### 7.11 Evolution of Cellular IoT security for the 5G System (Rel-16)

**S3-193927 Reply LS on NAS Aspects of Mobile-terminated Early Data Transmission**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: C1-195111*

**Discussion:**

Part of this LS was addressed as a new LS sent from last SA3's meeting. Ericsson believed that there were still open issues and wanted to have minuted that they would bring contributions in the future to address them:

"Ericsson has noted that the UP case is different ass the GUTI is not revealed in the uplink and may not need GUTI reallocation. Therefore, Ericsson may bring related contributions next meeting."

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

**S3-193928 Reply LS on Mobile-terminated Early Data Transmission**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: R2-1911603*

**Discussion:**

No actions for SA3.

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

**S3-193936 Reply LS on bulk authentication issue for IoT devices**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: R2-1911790*

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

**S3-194426 Forwarding of Reply LS on GUTI allocation for 5G CIoT**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: C1-198560*

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

**S3-193948 Reply LS on RRC Connection Reestablishment for CP for NB-IoT connected to 5GC**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1910789*

**Decision:** The document was **replied to in S3-194482**.

**S3-194482 Reply to: Reply LS on RRC Connection Reestablishment for CP for NB-IoT connected to 5GC**

*Type: LS out For: approval  
 to SA2, cc RAN2,CT4,CT1,RAN3  
 Source: Huawei*

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

**S3-194098 Discussion on Security for truncation of 5G-S-TMSI**

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

**Discussion:**

Qualcomm: not a DoS issue. We can modify whatever messages in the middle and cause this DoS.

Ericsson: the RAN cannot recreate the full 5G S-TMSI.

Qualcomm: this does not introduce a new security issue.

It was agreed not to describe the DoS attack in the LS.

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

**S3-194100 Reply LS to SA2 on Security Issue on 5G-S-TMSI Truncation Procedure**

*Type: LS out For: Approval  
 to SA2, cc RAN2, CT4, CT1, RAN3  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson agreed with this LS with minor changes.

Qualcomm didn’t agree with the DoS issue. The attack is based on man in the middle but it doesn’t lead to DoS.

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

**S3-194320 Reply LS to SA2 on RRC Connection Reestablishment for CP for NB-IoT**

*Type: LS out For: Approval  
 to SA2, cc RAN2, RAN3, CT4, CT1  
 Source: Qualcomm Incorporated*

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

**S3-194242 DraftCR – Living document for supporting 5G CIoT security**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

**Abstract:**

Resubmission of S3-193716 agreed last meeting. Baseline for the CIoT normative work.

**Decision:** The document was **revised to S3-194483**.

**S3-194483 DraftCR – Living document for supporting 5G CIoT security**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

(Replaces S3-194242)

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

**S3-194101 CIoT Title Modifications to draft CR**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

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

**S3-194236 [Draft CR] RRC Connection Re-Establishment for the control plane for NB-IoT radio access connected to 5GC**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

**Abstract:**

This draftCR is for the living document.

**Decision:** The document was **revised to S3-194484**.

**S3-194484 [Draft CR] RRC Connection Re-Establishment for the control plane for NB-IoT radio access connected to 5GC**

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

(Replaces S3-194236)

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

**S3-194099 Security Procedure for RRCConnectionRe-establishment Procedure for Control Plane Optimization for 5GS CIoT**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Clarifications and additions needed to be discussed offline.

Huawei argued that it was too early to add the false base station scenario as proposed by Ericsson.

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

**S3-194102 Skeleton for Security handling in User Plane CIoT 5GS Optimization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

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

**S3-194103 General for Security handling in User Plane CIoT 5GS Optimization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson wanted to align with the progress in RAN groups through the addition of two editor's notes.

**Decision:** The document was **revised to S3-194485**.

**S3-194485 General for Security handling in User Plane CIoT 5GS Optimization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194103)

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

**S3-194104 Security handling in Connection Suspend Procedure for User Plane CIoT 5GS Optimization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194486**.

**S3-194486 Security handling in Connection Suspend Procedure for User Plane CIoT 5GS Optimization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194104)

**Discussion:**

Revised to address Ericsson's comments.

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

**S3-194105 Security handling in Connection Resume in CM-IDLE with Suspend to a new ng-eNB for User Plane CIoT 5GS Optimization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194487**.

**S3-194487 Security handling in Connection Resume in CM-IDLE with Suspend to a new ng-eNB for User Plane CIoT 5GS Optimization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194105)

**Discussion:**

Addressing Ericsson's comments.

Disagreement on linking this to the results of the false base station topic. Huawei didn’t want to do any link but Ericsson claimed that there was relation with the message parameters exposed here (from "source C-NRTI..to the end of Note 1).

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

**S3-194106 Security handling in Connection Resume in CM-IDLE with Suspend to the same ng-eNB for User Plane CIoT 5GS Optimization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

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

**S3-194323 RRC UE capability transfer procedure for CP only CIoT UEs**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0687 Cat: F (Rel-16)  
  
 Source: Qualcomm Incorporated*

**Discussion:**

MCC argued that the CR was not introducing a correction but only adding an editor's note promising work. This was not adequate for a spec under change control and it would be better to bring the changes directly when the work in the study was mature.

Qualcomm commented that without this editor's note 6.5.3 would

It was proposed to add this to the living document and progress the work there; this was agreed.

The CR was not pursued but the editor's note was added to the living document to continue the work there.

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

**S3-194237 [Draft CR] RRC Connection Resume and Suspend procedures for the user plane for NB-IoT radio access connected to 5GC**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

**Abstract:**

This draftCR is for the living document.

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

### 7.12 Security of the Wireless and Wireline Convergence for the 5G system architecture (Rel-16)

**S3-194126 Living doc for 5WWC**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194529**.

**S3-194529 Living doc for 5WWC**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194126)

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

**S3-194286 Introducing missing definitions of untrusted and trusted non-3GPP accesses**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Discussion:**

Concerns on the skeleton structure as stated by Huawei.

ORANGE had concerns on whether this clause was necessary according to the content.

**Decision:** The document was **revised to S3-194530**.

**S3-194530 Introducing missing definitions of untrusted and trusted non-3GPP accesses**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

(Replaces S3-194286)

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

**S3-194287 Determining trust relationship in the UE**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-194531**.

**S3-194531 Determining trust relationship in the UE**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

(Replaces S3-194287)

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

**S3-194146 Removal of Editor’s Note and update of the Figure 6.Y.4-1**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Lenovo, Motorola Mobility*

**Abstract:**

Update of living document/draft CR S3-193479:

In order to remove the Editor’s Note in clause 7A.b.x “Authentication for Trusted non-3GPP Access”, the Figure 6.Y.4-1: “Registration \ Authentication and PDU Session establishment for trusted non-3GPP access”

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

**S3-194113 Editorial change for trusted non-3GPP access**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194532**.

**S3-194532 Editorial change for trusted non-3GPP access**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194113)

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

**S3-194283 TNAP mobility using ERP**

*Type: discussion For: Endorsement  
 33.501 v..  
 Source: Ericsson*

**Discussion:**

Discussed together with tdoc 116.

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

**S3-194116 Using ERP for intra-TNAN mobility**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Lenovo asked to postpone this in order to analyse it with more detail. This topic will be brought back in the next meeting.

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

**S3-194114 Update content for trusted non-3GPP access**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Nokia: not comfortable with enabling cyphering in IpSec.

**Decision:** The document was **revised to S3-194533**.

**S3-194533 Update content for trusted non-3GPP access**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194114)

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

**S3-194284 Trusted access key hierarchy**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Discussion:**

Huawei had some comments on the key names and this was left for offline discussion.

**Decision:** The document was **revised to S3-194606**.

**S3-194606 Trusted access key hierarchy**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

(Replaces S3-194284)

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

**S3-194285 Trusted access key derivation**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-194607**.

**S3-194607 Trusted access key derivation**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

(Replaces S3-194285)

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

**S3-194115 Corrections on N5CW connects 5GC via trusted non-3GPP access**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

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

**S3-194608 Corrections on N5CW connects 5GC via trusted non-3GPP access**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

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

**S3-194117 Move Requirement of 5G-RG to clause 5**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194609**.

**S3-194609 Move Requirement of 5G-RG to clause 5**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194117)

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

**S3-194118 Delete an assumption sentence**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

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

**S3-194119 Add a new clause for N5CW privacy**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, Hisilicon*

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

**S3-194400 Removing ENs in annex X in the living document for 5WWC**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0663 rev 1 Cat: F (Rel-16)  
  
 Source: CableLabs, Charter Communications,Lenovo, Motorola Mobility, EricssonRogers Communications, Nokia, Nokia Shanghai Bell,*

(Replaces S3-194030)

**Discussion:**

Orange: hard to understand what's new and what's existent.

CableLabs: red text is new. Blue text is existent.

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

**S3-194610 Removing ENs in annex X in the living document for 5WWC**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: CableLabs, Charter Communications,Lenovo, Motorola Mobility, EricssonRogers Communications, Nokia, Nokia Shanghai Bell,*

**Discussion:**

Revised to show better the changes with the revision marks.

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

**S3-194030 Removing ENs in annex X in the living document for 5WWC**

*Type: CR For: Approval  
 33.501 v16.0.0 CR-0663 Cat: F (Rel-16)  
  
 Source: CableLabs, Charter Communications, Rogers Communications, Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-194400**.

**S3-194694 5WWC**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0711 Cat: B (Rel-16)  
  
 Source: Huawei*

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

### 7.13 Security aspects of Enhancement of Network Slicing (Rel-16)

**S3-193929 LS on network slice-specific authentication and authorization**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: C1-196903*

**Discussion:**

No action for SA3.

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

**S3-193953 LS on SG17 new work item X.nsom-sec “Security requirements and architecture for network slice orchestration and management”**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: ITU-T SG17*

**Discussion:**

No action for SA3.

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

**S3-193945 Reply LS on AUSF role in slice specific authentication**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-1910668*

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

**S3-194535 Reply to: Reply LS on AUSF role in slice specific authentication**

*Type: LS out For: approval  
 to SA2, cc CT3  
 Source: Ericsson*

**Discussion:**

Nokia objected, as Telecom Italia, Orange.

Ericsson, HP , Huawei, Interdigital supported this LS.

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

**S3-194054 Discussion on LS from SA2 on AUSF role**

*Type: discussion For: Agreement  
 33.501 v..  
 Source: Huawei, HiSilicon*

**Discussion:**

Nokia: proposal 2 is a big impact on the architecture. There is also a proxy in the SA2 call flow with the same functionality as the proposed new NF.

Ericsson agreed with Nokia.

HP agreed with Huawei's proposal.

Nokia: security for the new slice specific authentication workflow is not broken from the security perspective. Huawei should go to SA2 to defend their proposal.

This was taken offline.

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

**S3-193965 Draft for ‘proposed structure for network slice security procedures’**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: InterDigital Communications*

**Abstract:**

This draft CR proposes a Draft for structure for network slice security procedures.

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

**S3-194045 Add content to Clause X.X.2 of eNS**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-194536**.

**S3-194536 Add content to Clause X.X.2 of eNS**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, HiSilicon,Nokia,Ericsson, Interdigital*

(Replaces S3-194045)

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

**S3-194214 DraftCR - Proposed flow for clarifying primary authentication steps**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Abstract:**

This contribution targets the living document.

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

**S3-194058 Proposed text for clause x.2 of living CR for eNS**

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

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

**S3-194046 Amendment to Clause X.X.3 of Slice specific authentication procedure**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Discussed together with 212.

Nokia: This is not aligned with SA2.how does roaming work? Unclear how Every AMF in the network gets to the AAA proxy. Huawei replied that this was an SA2 issue.

Ericsson: this solution doesn’t work.

Qualcomm: align the message names properly in all steps.

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

**S3-194212 DraftCR – Proposed call flow for Network Slice Specific Authentication and Authorization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Abstract:**

This contribution targets the living document.

**Discussion:**

China Mobile:NSSAI sent to the AAA server from network operator in step 7. NSSAI is a private part of the network's operator topology.

Ericsson: this is needed in the AAA server for revocation procedures to work.

Huawei disagreed, as there was alternative information that could be sent, some transformation of the information like done with the SUPI.

Nokia was aligned with Ericsson.

Nokia: no privacy sensitive information in the NSSAI today.

**Decision:** The document was **revised to S3-194537**.

**S3-194537 DraftCR – Proposed call flow for Network Slice Specific Authentication and Authorization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson,Huawei*

(Replaces S3-194212)

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

**S3-194047 Note for the User ID privacy protection in Clause X.X.3**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Nokia disagreed with the note. Orange commented that it should be a recommendation and not mandatory.

It was also discussed whether it had to be a note or not. MCC commented that notes were informative, and any normative language (recommendation or requirement) could not be used in them. It was agreed to make it plain text and have it as a recommendation.

**Decision:** The document was **revised to S3-194538**.

**S3-194538 Note for the User ID privacy protection in Clause X.X.3**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, HiSilicon*

(Replaces S3-194047)

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

**S3-194048 Discussion on Authentication method negotiation**

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

**Discussion:**

Nokia, Qualcomm: we don’t need this.Ericsson agreed with them, that if this was needed, it would be related to the AAA server.

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

**S3-194049 Authentication method negotiation**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Huawei, HiSilicon*

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

**S3-194213 DraftCR - Proposed flow for Re-authentication and Re-authorization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Abstract:**

This contribution targets the living document.

**Discussion:**

Nokia: early to adopt this. Add an editor's note. Ericsson replied that SA3 needed to send these flows to SA2, so an editor's note may not be appropriate.

Huawei: reference to the SA2 document instead of copying the whole content from SA2. What if they update their part? Qualcomm agreed, no need to have a duplication in both groups since SA2 and SA3 could be updating the same text differently. The Chair agreed that this was a general problem and it needed to be discussed further. SA3 should make sure that work is not duplicated by communicating changes to SA2.

This was taken offline.

**Decision:** The document was **revised to S3-194539**.

**S3-194539 DraftCR - Proposed flow for Re-authentication and Re-authorization**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

(Replaces S3-194213)

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

**S3-194215 DraftCR – Proposing a new AUSF service to support NSSAA flow**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Abstract:**

This contribution targets the living document.

**Discussion:**

This depends on the outcome of the discussion on the AUSF involvement (LS in 535). Taken offline to address the

**Decision:** The document was **revised to S3-194540**.

**S3-194540 DraftCR – Proposing a new AUSF service to support NSSAA flow**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

(Replaces S3-194215)

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

**S3-194541 Living document on slice specific authentication procedures**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Nokia*

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

### 7.14 Security for NR Integrated Access and Backhaul (Rel-16)

**S3-194368 Requirements for Secure environment of the IAB node**

*Type: draftCR For: (not specified)  
 33.501 v16.0.0  
 Source: Samsung*

**Discussion:**

Ericsson, Orange: reference this clause from the annex.

**Decision:** The document was **revised to S3-194594**.

**S3-194594 Requirements for Secure environment of the IAB node**

*Type: draftCR For: -  
 33.501 v16.0.0  
 Source: Samsung*

(Replaces S3-194368)

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

**S3-194274 [Draft CR] Security requirements for F1 interface**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

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

**S3-194275 [Draft CR] Security requirements on the IAB node, IAB donor and 5GC supporting IAB architecture**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

**Discussion:**

Qualcomm: IAB donor instead of parent IAB.

**Decision:** The document was **revised to S3-194595**.

**S3-194595 [Draft CR] Security requirements on the IAB node, IAB donor and 5GC supporting IAB architecture**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

(Replaces S3-194275)

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

**S3-194369 IAB-node integration procedure**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Samsung*

**Discussion:**

Nokia: phases are related to the deployment. Samsung replied that this was a security sequence and not related to the deployment phase. Orange agreed that this was confusing. Nokia added that additional text should be

Samsung: this is not new, this is part of definitions given in RAN.

MCC commented that the last paragraph didn’t seem appropriate for a general clause since it was introducing requirements. In addition to this, it looked like a requirement was given to the attackers as well.

**Decision:** The document was **revised to S3-194597**.

**S3-194597 IAB-node integration procedure**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Samsung,Ericsson*

(Replaces S3-194369)

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

**S3-194277 [Draft CR] General introduction to IAB-node Integration Procedure**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

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

**S3-194371 IAB-UE part set-up procedure**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Samsung*

**Decision:** The document was **revised to S3-194598**.

**S3-194598 IAB-UE part set-up procedure**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Samsung,Ericsson*

(Replaces S3-194371)

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

**S3-194278 [Draft CR] Authentication of IAB nodes**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

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

**S3-194279 [Draft CR] Authorization of IAB nodes**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

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

**S3-194276 [Draft CR] Security mechanisms for the F1 interface between the IAB-node (gNB-DU) and the IAB-donor-CU**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

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

**S3-194373 F1 interface set-up procedure**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Samsung*

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

**S3-194280 [Draft CR] Update of general introduction to IAB**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Ericsson*

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

**S3-194281 Draft CR - Security for Integrated Access and Backhaul in EN-DC**

*Type: draftCR For: Approval  
 33.401 v16.0.0  
 Source: Ericsson*

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

**S3-194375 Solution for IAB Architecture**

*Type: draftCR For: Approval  
 33.401 v16.0.0  
 Source: Samsung*

**Discussion:**

ORANGE: Requirements for subscription credential storage are not in TS 33.401 but in a CT spec. This was taken offline.

**Decision:** The document was **revised to S3-194599**.

**S3-194599 Solution for IAB Architecture**

*Type: draftCR For: Approval  
 33.401 v16.0.0  
 Source: Samsung .Ericsson*

(Replaces S3-194375)

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

**S3-194417 [Draft CR]Solution for IAB Architecture (Baseline version)**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Samsung*

**Abstract:**

Re-submission of S3-193808, agreed in the last meeting. Baseline for the IAB normative work (TS 33.501).

**Decision:** The document was **revised to S3-194596**.

**S3-194596 [Draft CR]Solution for IAB Architecture (Baseline version)**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Samsung*

(Replaces S3-194417)

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

### 7.15 Security aspects of SEAL (Rel-16)

**S3-194387 Skeleton for SEAL TS 33.434**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

**Discussion:**

Motorola proposed some changes in the structure of the TS.

**Decision:** The document was **revised to S3-194627**.

**S3-194627 Skeleton for SEAL TS 33.434**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

(Replaces S3-194387)

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

**S3-194388 Scope for SEAL TS 33.434**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

**Discussion:**

Tim (Motorola) suggested to add more wording to extend the scope.

**Decision:** The document was **revised to S3-194628**.

**S3-194628 Scope for SEAL TS 33.434**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

(Replaces S3-194388)

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

**S3-194389 Adding reference, term, abbreviation to the SEAL TS 33.434**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

**Decision:** The document was **revised to S3-194629**.

**S3-194629 Adding reference, term, abbreviation to the SEAL TS 33.434**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

(Replaces S3-194389)

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

**S3-194390 Security requirements for SEAL**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

**Discussion:**

Orange: differences between the different services written here? They seem to be three different services. The VAL service is not defined.

Motorola provided a few more comments that had to be taken offline.

**Decision:** The document was **revised to S3-194631**.

**S3-194631 Security requirements for SEAL**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

(Replaces S3-194390)

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

**S3-194391 Security for SEAL interfaces**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

**Discussion:**

Motorola asked to add an editor's note on additional references needed to align with the SA6 specification. The terminology also needed to be aligned with the SA6 architecture.

**Decision:** The document was **revised to S3-194632**.

**S3-194632 Security for SEAL interfaces**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

(Replaces S3-194391)

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

**S3-194392 VAL user authentication and authorization**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

**Discussion:**

Huawei commented that this was quite a large content and asked to have more time to review it properly.

Motorola also had numerous comments. Samsung replied that they would bring back this and the following contributions for the next meeting (addressing the comments from the companies).

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

**S3-194393 Security procedure for S-KMC and S-KMS**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

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

**S3-194394 Annex X: OpenID Connect**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

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

**S3-194395 Annex Y for TS 33.434**

*Type: pCR For: Approval  
 33.434 v0.0.0  
 Source: Samsung*

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

**S3-194630 Draft TR 33.434**

*Type: draft TS For: Approval  
 33.434 v0.1.0  
 Source: Samsung*

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

### 7.16 Security Aspects of 3GPP support for Advanced V2X Services (Rel-16)

**S3-193939 LS on PC5-S Signaling and PC5-RRC connection for NR sidelink communication**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: R2-1914151*

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

**S3-194248 pCR for eV2X TS**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Ericsson*

**Abstract:**

content for the V2X TS, privacy clause

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

**S3-194312 Proposed text for the early clauses for V2X TS**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, LG Electronics*

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

**S3-194614 Proposed text for the early clauses for V2X TS**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, LG Electronics*

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

**S3-194313 Proposed text for security for V2X over Uu reference point clause**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, LG Electronics*

**Decision:** The document was **revised to S3-194615**.

**S3-194615 Proposed text for security for V2X over Uu reference point clause**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, LG Electronics,Ericsson*

(Replaces S3-194313)

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

**S3-194314 Proposed inclusion of groupcast and broadcast privacy solutions**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, LG Electronics*

**Decision:** The document was **revised to S3-194613**.

**S3-194613 Proposed inclusion of groupcast and broadcast privacy solutions**

*Type: other For: Approval  
 Source: Qualcomm Incorporated, LG Electronics,Ericsson*

(Replaces S3-194314)

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

**S3-194605 Notes on the V2X offline session**

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

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

**S3-194625 Draft TS 33.xyz on V2X**

*Type: other For: Approval  
 Source: Lge*

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

### 7.17 User Plane Gateway Function for Inter-PLMN Security (Rel-16)

**S3-194399 Source IP address range check for UPGF**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Source IP address range check for UPGF

**Discussion:**

Juniper networks: remove "that intercepts outgoing GTP-U traffic originated from a UPF". Ericsson added that in fact the whole paragraph was not needed.

Docomo: which source address are you referring to?

This was taken offline.

**Decision:** The document was **revised to S3-194463**.

**S3-194463 Source IP address range check for UPGF**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194399)

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

**S3-194397 UPGF - Align with Inter PLMN UP Security Function (IPUPS)**

*Type: draftCR For: Approval  
 33.501 v16.0.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Align with Inter PLMN UP Security Function (IPUPS)

**Discussion:**

Huawei, Juniper: bring back the first sentence.

Docomo: don’t change the acronym.

This was finally noted.

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

### 7.18 Provision of Access to Restricted Local Operator Services by Unauthenticated UEs – Security Aspects (Rel-16)

**S3-194337 Security aspects of RLOS**

*Type: CR For: Agreement  
 33.401 v16.0.0 CR-0687 Cat: B (Rel-16)  
  
 Source: Qualcomm Incorporated*

**Discussion:**

Nokia: delete "manufacturing time" from step 3.

Vodafone: "where RLOS are supported"? Qualcomm replied that it referred to the regions where RLOS was supported.

ORANGE commented on step 3 that the integrity of the white list was not ensured. It was agreed to bring back the manufacturing time and make it more strict.

Orange: what is "valid USIM" in step 4? Qualcomm replied that if there is a USIM present with a ISIM that matches the MCC. It was agreed to remove "valid".

**Decision:** The document was **revised to S3-194633**.

**S3-194633 Security aspects of RLOS**

*Type: CR For: Agreement  
 33.401 v16.0.0 CR-0687 rev 1 Cat: B (Rel-16)  
  
 Source: Qualcomm Incorporated*

(Replaces S3-194337)

**Discussion:**

The last sentence on the whitelist had to be discussed internally in MCC. If necessary, it would be modified in the next SA plenary directly.

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

### 7.19 Other work areas

#### 7.19.1 SAE/LTE Security

**S3-193968 33401-CR on CHO key derivation**

*Type: CR For: Approval  
 33.401 v16.0.0 CR-0683 Cat: C (Rel-16)  
  
 Source: Apple*

**Discussion:**

Depending on the discussion for 448.

**Decision:** The document was **revised to S3-194602**.

**S3-194602 33401-CR on CHO key derivation**

*Type: CR For: Approval  
 33.401 v16.0.0 CR-0683 rev 1 Cat: C (Rel-16)  
  
 Source: Apple*

(Replaces S3-193968)

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

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

#### 7.19.3 Network Domain Security (NDS)

#### 7.19.4 UTRAN Network Access Security

#### 7.19.5 GERAN Network Access Security

#### 7.19.6 Generic Authentication Architecture (GAA)

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

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

**S3-193923 [MCPTT] 33179 R13 Missing Abbreviations**

*Type: CR For: Agreement  
 33.179 v13.9.0 CR-0103 Cat: F (Rel-13)  
  
 Source: Airbus*

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

**S3-193920 [MCSec] 33180 R14 Missing Abbreviations**

*Type: CR For: Agreement  
 33.180 v14.7.0 CR-0123 Cat: F (Rel-14)  
  
 Source: Airbus*

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

**S3-193917 [eMCSec] 33180 R15 Missing Abbreviations (Mirror)**

*Type: CR For: Agreement  
 33.180 v15.6.0 CR-0120 Cat: A (Rel-15)  
  
 Source: Airbus*

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

**S3-193993 [33.180] R14 - Fix bad reference**

*Type: CR For: Agreement  
 33.180 v14.7.0 CR-0126 Cat: F (Rel-14)  
  
 Source: Motorola Solutions UK Ltd.*

**Abstract:**

Fix incorrect SRTCP session key derivation reference.

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

**S3-193994 [33.180] R15 Fix bad reference (mirror)**

*Type: CR For: Agreement  
 33.180 v15.6.0 CR-0127 Cat: A (Rel-15)  
  
 Source: Motorola Solutions UK Ltd.*

**Abstract:**

Fix incorrect SRTCP session key derivation reference (mirror).

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

**S3-193924 [MCPTT] 33179 R13 Reference Addition**

*Type: CR For: Agreement  
 33.179 v13.9.0 CR-0104 Cat: F (Rel-13)  
  
 Source: Airbus*

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

**S3-193921 [MCSec] 33180 R14 Reference Addition (Mirror)**

*Type: CR For: Agreement  
 33.180 v14.7.0 CR-0124 Cat: F (Rel-14)  
  
 Source: Airbus*

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

**S3-193918 [eMCSec] 33180 R15 Reference Addition (Mirror)**

*Type: CR For: Agreement  
 33.180 v15.6.0 CR-0121 Cat: A (Rel-15)  
  
 Source: Airbus*

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

**S3-193925 [MCPTT] 33179 R13 Correction concerning IdM client**

*Type: CR For: Agreement  
 33.179 v13.9.0 CR-0105 Cat: F (Rel-13)  
  
 Source: Airbus*

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

**S3-193922 [MCSec] 33180 R14 Correction concerning IdM client (Mirror)**

*Type: CR For: Agreement  
 33.180 v14.7.0 CR-0125 Cat: F (Rel-14)  
  
 Source: Airbus*

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

**S3-193919 [eMCSec] 33180 R15 Correction concerning IdM client (Mirror)**

*Type: CR For: Agreement  
 33.180 v15.6.0 CR-0122 Cat: A (Rel-15)  
  
 Source: Airbus*

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

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

**S3-194299 33.216 Corrections for clean-up and alignment R15**

*Type: CR For: Approval  
 33.216 v15.1.0 CR-0005 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR proposes some essential corrections in TS 33.216 for clean-up and alignment.

**Discussion:**

Futurewei disagreed with the removal of the test cases since those were being used.

China Mobile: why removing 4.2.7? We care about the functional requirements.

Futurewei preferred not to see editor's notes and it was asked to minute that the execution steps for Uu reference point in the test case in sub-clause 4.2.2.1.3 needed to be added.

**Decision:** The document was **revised to S3-194480**.

**S3-194480 33.216 Corrections for clean-up and alignment R15**

*Type: CR For: Approval  
 33.216 v15.1.0 CR-0005 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194299)

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

**S3-194300 33.216 Corrections for clean-up and alignment R16**

*Type: CR For: Approval  
 33.216 v16.1.0 CR-0006 Cat: A (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR is the mirror of paper S3-194299 for TS 33.216 R16.

**Discussion:**

Nokia asked to minute the following comment:

"The execution steps for Uu reference point in the test case in sub-clause 4.2.2.1.3 need to be added."

**Decision:** The document was **revised to S3-194481**.

**S3-194481 33.216 Corrections for clean-up and alignment R16**

*Type: CR For: Approval  
 33.216 v16.1.0 CR-0006 rev 1 Cat: A (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194300)

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

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

**S3-193938 Reply LS on Handling of UE radio network capabilities in 4G and 5G**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: R2-1911850*

**Decision:** The document was **replied to in S3-194488**.

**S3-194075 Reply LS on Handling of UE radio network capabilities in 4G and 5G**

*Type: LS out For: (not specified)  
 to RAN2, cc RAN3, SA2  
 Source: Intel Corporation (UK) Ltd*

**Discussion:**

Qualcomm and Huawei agreed with this reply.

Qualcomm added that it should be mentioned that SA3 was still studying this issue.

This had to be taken offline as Nokia had issues with the reply to question 1.

**Decision:** The document was **revised to S3-194488**.

**S3-194488 Reply LS on Handling of UE radio network capabilities in 4G and 5G**

*Type: LS out For: -  
 to RAN2, cc RAN3, SA2  
 Source: Intel Corporation (UK) Ltd*

(Replaces S3-194075)

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

**S3-194241 DRAFT Reply LS on Handling of UE radio network capabilities in 4G and 5G**

*Type: LS out For: Approval  
 to RAN2, cc RAN3, SA2  
 Source: Ericsson*

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

**S3-194243 Security of RRC UE capability transfer procedure in EPS**

*Type: CR For: Approval  
 33.401 v15.9.0 CR-0684 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Discussion:**

Qualcomm: release 16 new feature, so we should wait for the results of the study to be completed.

Ericsson: EPS is not part of the study, this is a different issue.

Nokia: this is something new for legacy (LTE) Ues.

Qualcomm: we want the same mechanism as 5G in here, but let's wait until the study is finished. Huawei agreed with this.

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

**S3-194244 RRC Connection Resume and Suspend procedures**

*Type: CR For: Approval  
 33.401 v15.9.0 CR-0685 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Discussion:**

Nokia wanted to add more text to make it clear. They agreed with the change. Ericsson didn’t find this necessary. Nokia promised to bring a CR next time to propose

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

**S3-194245 RRC Connection Resume and Suspend procedures**

*Type: CR For: Approval  
 33.401 v16.0.0 CR-0686 Cat: A (Rel-16)  
  
 Source: Ericsson*

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

#### 7.19.11 EPC enhancements to support 5G New Radio via Dual Connectivity (EDCE5)

#### 7.19.12 Northbound APIs Security for SCEF - SCS/AS Interworking (NAPS\_Sec) (Rel-15)

#### 7.19.13 Security Aspects of Common API Framework for 3GPP Northbound APIs (CAPIF\_Sec) (Rel-15)

#### 7.19.14 PLMN RAT selection (Steering of Roaming) (Rel-15)

**S3-193931 LS on Clarification on the requirement for steering of roaming**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: C1-197001*

**Discussion:**

No action for SA3.

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

#### 7.19.15 Battery Efficient Security for very low Throughput Machine Type Communication Devices (BEST\_MTC\_Sec) (Rel-15)

#### 7.19.16 Other work items

**S3-194263 Certificate and CRL profile update**

*Type: CR For: Agreement  
 33.310 v16.2.0 CR-0102 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Discussion:**

Huawei asked these group of CRs to be postponed for the next meeting.

MCC commented that the notes were not appropriate as they were predicting the prohibition of features in future 3GPP releases.

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

**S3-194264 TLS Recommended Cipher Suites**

*Type: CR For: Agreement  
 33.210 v16.2.0 CR-0061 Cat: F (Rel-16)  
  
 Source: Ericsson*

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

**S3-194265 Required TLS extenstions and algorithms**

*Type: CR For: Agreement  
 33.210 v16.2.0 CR-0062 Cat: F (Rel-16)  
  
 Source: Ericsson*

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

**S3-194266 IKEv2 profile update 33.210**

*Type: CR For: Agreement  
 33.210 v16.2.0 CR-0063 Cat: F (Rel-16)  
  
 Source: Ericsson*

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

**S3-194267 IKEv2 profile update 33.310**

*Type: CR For: Agreement  
 33.310 v16.2.0 CR-0103 Cat: F (Rel-16)  
  
 Source: Ericsson*

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

**S3-194268 Using EAP-TLS with TLS 1.3**

*Type: CR For: Agreement  
 33.501 v16.0.0 CR-0678 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Discussion:**

Orange commented that Annex B was informative so the normative text could not be introduced here.

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

### 7.20 New work item proposals

**S3-193913 New WID on Security Aspects of PARLOS**

*Type: WID new For: Agreement  
 Source: SPRINT Corporation*

**Decision:** The document was **revised to S3-194525**.

**S3-194525 New WID on Security Aspects of PARLOS**

*Type: WID new For: Agreement  
 Source: SPRINT Corporation*

(Replaces S3-193913)

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

**S3-193979 New WID on eV2X security**

*Type: WID new For: Approval  
 Source: LG Electronics Inc.*

**Decision:** The document was **revised to S3-194468**.

**S3-194468 New WID on eV2X security**

*Type: WID new For: Approval  
 Source: LG Electronics Inc.*

(Replaces S3-193979)

**Discussion:**

ORANGE: the requirements in TR 33.836 are potential, don’t refer to this TR and stick to the TS as a base.

Editorial comments from MCC.

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

**S3-193982 Skeleton for TS on eV2X**

*Type: discussion For: Agreement  
 Source: LG Electronics Inc.*

**Discussion:**

Huawei: 5.2.2 gives the impression that the privacy requirements are the most important. They are part of the security requirements. Article19 objected to removing privacy from the tile of clause 5.2.2. Huawei didn’t agree with keeping it in the title.

**Decision:** The document was **revised to S3-194526**.

**S3-194526 Skeleton for TS on eV2X**

*Type: other For: Approval  
 Source: LG Electronics Inc.*

(Replaces S3-193982)

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

**S3-194180 New WID: Work Item on Security Assurance Specification for IMS**

*Type: WID new For: Approval  
 Source: Huawei, Hisilicon*

**Discussion:**

ORANGE: why excluding the IMS Access Gateway from the scope of the WID? Huawei commented that they were open to other network elements. It was agreed to generalize this.

It was clarified that this affected Release 17 (wrong templated used for this WID).

Nokia: SCAS for 5G or LTE? In SA2 they are working on IMS for 5G.

ORANGE: this is SCAS for the previous Release, as we always do. This is SCAS for Release 15.

**Decision:** The document was **revised to S3-194527**.

**S3-194527 New WID: Work Item on Security Assurance Specification for IMS**

*Type: WID new For: Approval  
 Source: Huawei, Hisilicon*

(Replaces S3-194180)

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

**S3-194269 New WID on 3GPP profiles for cryptographic algorithms and IETF protocols**

*Type: WID new For: Agreement  
 Source: Ericsson*

**Discussion:**

Qualcomm: remove PFS objective and justification.

NCSC: bullets look like key issues or solutions rather than objectives.

Ericsson clarified that there were CRs for this meeting already, but with the WID TEI16 (to be changed to DUMMY).

**Decision:** The document was **revised to S3-194528**.

**S3-194528 New WID on 3GPP profiles for cryptographic algorithms and IETF protocols**

*Type: WID new For: Agreement  
 Source: Ericsson*

(Replaces S3-194269)

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

## 8 Studies

### 8.1 Study on Security Aspects of the 5G Service Based Architecture

**S3-194167 eSBA: conclusion update on KI #22**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

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

**S3-194380 Discussion paper on authorization for Model D Indirect communications**

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

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

**S3-194382 Update to conclusion on Key issue #22: Authorization of NF service access in indirect communication**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Update to conclusion on Key issue #22: Authorization of NF service access in indirect communication

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

**S3-194255 Update to conclusion on Key issue #23: NF to NF authentication and authorization in Indirect communication**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

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

**S3-194504 Update to conclusion on Key issue #23: NF to NF authentication and authorization in Indirect communication**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

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

**S3-194194 Security requirement on Key Issue #24: service access authorization of a NF Set**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194505**.

**S3-194505 Security requirement on Key Issue #24: service access authorization of a NF Set**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194194)

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

**S3-194192 Evaluation on service access authorization of a NF Set in non-roaming scenario**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194506**.

**S3-194506 Evaluation on service access authorization of a NF Set in non-roaming scenario**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194192)

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

**S3-194193 Evaluation on service access authorization of a NF Set in roaming scenario**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194507**.

**S3-194507 Evaluation on service access authorization of a NF Set in roaming scenario**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194193)

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

**S3-194186 Conclusion on service access authorization of a NF Set**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194508**.

**S3-194508 Conclusion on service access authorization of a NF Set**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194186)

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

**S3-194425 Update on solution#15 in TR 33.855**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194183)

**Decision:** The document was **revised to S3-194509**.

**S3-194509 Update on solution#15 in TR 33.855**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194425)

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

**S3-194185 Conclusion on authorization in the delegated Subscribe-Notify interaction scenarios**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

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

**S3-194253 Conclusion of Key Issue #28: Service access authorization in the delegated "Subscribe-Notify" scenarios**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

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

**S3-194165 New KI: Service access authorization for non-delegated subscribe-notify**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194510**.

**S3-194510 New KI: Service access authorization for non-delegated subscribe-notify**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194165)

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

**S3-194182 New solution for authorization in the non-delegated "Subscribe-Notify" interaction scenarios**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194511**.

**S3-194511 New solution for authorization in the non-delegated "Subscribe-Notify" interaction scenarios**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194182)

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

**S3-194184 Conclusion on authorization in the non-delegated Subscribe-Notify interaction scenarios**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

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

**S3-194168 eSBA: conclusion update on KI #29**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194512**.

**S3-194512 eSBA: conclusion update on KI #29**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194168)

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

**S3-194258 New Key issue on NF subtypes for authorization granularity**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-194513**.

**S3-194513 New Key issue on NF subtypes for authorization granularity**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

(Replaces S3-194258)

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

**S3-194259 Update of Solution #32: OAuth 2.0 based resource level authorization of NF service consumers**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

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

**S3-194260 Conclusion on NF subtypes for authorization granularity**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

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

**S3-194166 eSBA: add conclusion on KI #5**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

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

**S3-194254 Conclusion for Key Issue #5 "NF-NF Authorization"**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-194514**.

**S3-194514 Conclusion for Key Issue #5 "NF-NF Authorization"**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

(Replaces S3-194254)

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

**S3-194257 Removal of Editor's Notes for Security of indirect communication in roaming scenarios**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-194515**.

**S3-194515 Removal of Editor's Notes for Security of indirect communication in roaming scenarios**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Ericsson*

(Replaces S3-194257)

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

**S3-194183 Update on solution#15 in TR 33.855**

*Type: pCR For: Approval  
 33.855 v1.8.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194425**.

**S3-194503 Notes from the eSBA break out session**

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

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

**S3-194516 Draft TR 33.855**

*Type: draft TR For: Approval  
 33.855 v1.9.0  
 Source: Ericsson*

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

### 8.2 Study on Authentication and key management for applications based on 3GPP credential in 5G

**S3-193984 Update to Key Issue #6**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: KPN, China Mobile*

**Abstract:**

This contribution addresses the editor's note in Key Issue #6.

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

**S3-194209 Conclusion on end to end security**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: China Mobile, KPN*

**Discussion:**

Ericsson: you are proposing an informative annex for normative work.

KPN: we want it normative and if this is not agreed it would become informative.

Vodafone: this text is not an evaluation or a conclusion.

Qualcomm: this is not part of AKMA. It's part of the interface between UE and application function.

This had to be taken offline.

**Decision:** The document was **revised to S3-194636**.

**S3-194636 Conclusion on end to end security**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: China Mobile, KPN*

(Replaces S3-194209)

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

**S3-194273 Conclusions on Key Management**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: Ericsson*

**Discussion:**

China Mobile: The case of the reauthentication being not successful is not clear to me. Ericsson replied that this wasn't a reauthentication but another authentication decided by the network, a subsequent authentication. Huawei didn’t agree with this.

Taken offline.

**Decision:** The document was **revised to S3-194637**.

**S3-194637 Conclusions on Key Management**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: Ericsson*

(Replaces S3-194273)

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

**S3-194170 Editorial changes on solution for AKMA change**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: make sure to mention all occurrences of security contexts here.

**Decision:** The document was **revised to S3-194638**.

**S3-194638 Editorial changes on solution for AKMA change**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194170)

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

**S3-194171 Resolving the editor’s notes in the solution of AKMA change**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm didn’t agree with this evaluation. No need for two PUSH solutions since SA3 had already a GBA Push work item ongoing. Vodafone supported this.

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

**S3-194172 AKMA: add conclusion on KI #17**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Taken offline whether it will have one or two Push solutions.

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

**S3-194639 AKMA: add conclusion on KI #17**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: Huawei, Hisilicon*

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

**S3-194210 Add abbreviations and editorial changes to TR 33.835**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: China Mobile*

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

**S3-194217 Cover sheet TR 33.835 for approval**

*Type: TS or TR cover For: Approval  
 33.835 v1.1.0  
 Source: China Mobile*

**Discussion:**

Vodafone objected sending this document for approval during the current meeting. The document was clashing with other existing specs and Vodafone needed more time to evaluate the TR.

China Mobile commented that the completion was above 80% already.

Vodafone added that the specification needed to go to EditHelp as well.

Vodafone had a sustained objection. They were the only one.

NTT-Docomo: there are numerous editor's notes and this should be mentioned in the outstanding issues.

Orange: write clean-up in the outstanding issues.

Mauro (TIM): if the group agrees on a needed clean-up what's the rush for sending this now instead of the next meeting?

China Mobile: SA should know that we have done 80% of the work.

BT found it better to delay and joined Vodafone.

The Chair commented that the next meeting would focus especially on normative work and that the group would be under a lot of pressure to finish release 16.

**Decision:** The document was **revised to S3-194695**.

**S3-194695 Cover sheet TR 33.835 for approval**

*Type: TS or TR cover For: Approval  
 33.835 v1.1.0  
 Source: China Mobile*

(Replaces S3-194217)

**Discussion:**

NTT-Docomo commented that they preferred not to spend more time discussing this and send it for approval.

Qualcomm: it is clearly more than 80% completed.

Lenovo supported sending this for approval.

Nokia: let's focus on the TS.

ZTE supported sending it for approval.

Sending the TR for approval, show of hands:

Vodafone objected.

Support sending it for approval:

Ericsson Apple, ZTE, Huawei,KPN,Lenovo,Qualcomm, Nokia,China Mobile.

The Chair decided to send it for approval anyway but warned the delegates that Vodafone could object in plenary and in that case it would be probably brought back to SA3.

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

**S3-193983 Update to Key Issue #6**

*Type: pCR For: Approval  
 33.835 v1.1.0  
 Source: KPN, China Mobile*

**Abstract:**

This contribution addresses the editor's note in the Key Issue.

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

**S3-194216 Cover sheet TR 33.835**

*Type: TS or TR cover For: Approval  
 33.835 v1.1.0  
 Source: China Mobile International Ltd*

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

**S3-194635 Draft TR 33.835**

*Type: draft TR For: Approval  
 33.835 v1.2.0  
 Source: China Mobile*

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

### 8.3 Study on Evolution of Cellular IoT security for the 5G System

**S3-194240 Removal of three obsolete Editor’s Notes**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Ericsson*

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

**S3-193991 KI 14 Potential Security Requirement**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: NIST, ATT, Sprint Corporation, CableLabs, Deutsche Telekom AG, Cisco*

**Abstract:**

Adding a potential security requirement to Key issue #14

**Discussion:**

Ericsson: data format is not security related.

NIST: the key issue is on communication in the user plane and prevent any communication that falls outside that scope.

Ericsson: we assumed that this key issue should be left without security requirements, and concluded since there is a lot more to be evaluated; the study has continued for way too long.

**Decision:** The document was **revised to S3-194490**.

**S3-194490 KI 14 Potential Security Requirement**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: NIST, ATT, Sprint Corporation, CableLabs, Deutsche Telekom AG, Cisco*

(Replaces S3-193991)

**Discussion:**

Revised to re-formulate the security requirement.

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

**S3-194080 Updates to Key issue Protection of UE capability transfer for UEs without AS security**

*Type: pCR For: (not specified)  
 33.861 v1.4.0  
 Source: Intel Corporation (UK) Ltd*

**Discussion:**

080,087,238,324 overlap in this issue.

**Decision:** The document was **revised to S3-194491**.

**S3-194491 Updates to Key issue Protection of UE capability transfer for UEs without AS security**

*Type: pCR For: -  
 33.861 v1.4.0  
 Source: Intel Corporation (UK) Ltd,Qualcomm,Huawei,Ericsson*

(Replaces S3-194080)

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

**S3-194087 Add the threat and requirement in KI#15**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Huawei, Hisilicon*

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

**S3-194238 KI#15 - new requirement for handling UEs without AS security**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Ericsson*

**Discussion:**

Qualcomm: requirement too vague.

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

**S3-194324 Security Requirement for KI #15**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Qualcomm Incorporated*

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

**S3-193992 New Solution for KI #14**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: NIST, ATT, Sprint, CableLabs, Deutsche Telekom AG, Cisco*

**Abstract:**

Adding solution for KI #14

**Discussion:**

Ericsson: several editor's notes are needed since this solution is not complete: how it fits into the 3GPP network, how it interacts with the 3GPP elements.

Huawei: remove the evaluation part, as it should be evaluated in SA2.

Ericsson was also sceptical about this solution as it would require a lot of work and the timeline would not allow to fully study this part.

Qualcomm: SA2 study is in Release 17 and this is for Release 16.

**Decision:** The document was **revised to S3-194492**.

**S3-194492 New Solution for KI #14**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: NIST, ATT, Sprint, CableLabs, Deutsche Telekom AG, Cisco*

(Replaces S3-193992)

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

**S3-194088 Protection of UE capability transfer for CP optimization only CIoT UE**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Nokia: System impact, on the NAS protocol, UE capability exchange, etc.. An editor's note was added about this.

Qualcomm, Ericsson had issue with the evaluation part. This was taken offline.

**Decision:** The document was **revised to S3-194493**.

**S3-194493 Protection of UE capability transfer for CP optimization only CIoT UE**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194088)

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

**S3-194079 Security solution for UE Capability Transfer for UE with no AS security.**

*Type: pCR For: (not specified)  
 33.861 v1.4.0  
 Source: Intel Corporation (UK) Ltd*

**Discussion:**

Nokia: this changes the behaviour of the base station.

Ericsson: this procedure between the RAN and the core network is totally new. Intel agreed to add an editor's note on this.

**Decision:** The document was **revised to S3-194494**.

**S3-194494 Security solution for UE Capability Transfer for UE with no AS security.**

*Type: pCR For: -  
 33.861 v1.4.0  
 Source: Intel Corporation (UK) Ltd*

(Replaces S3-194079)

**Discussion:**

Removing steps 1-3. Editor's note on the new call flow RAN- core network. Evaluation was removed as proposed by Qualcomm.

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

**S3-194325 AMF verification of the UE radio capabilities for CP optimization only CIoT UE**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Qualcomm Incorporated*

(Replaces S3-193391)

**Discussion:**

Intel: Hash seems to be sent in the initial request in an open message, add an editor's note. Qualcomm replied that it was mandatorily protected.

Ericsson: step 3 might happen before step 2, not ensured that steps happen in this order.

This was taken offline.

**Decision:** The document was **revised to S3-194495**.

**S3-194495 AMF verification of the UE radio capabilities for CP optimization only CIoT UE**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Qualcomm Incorporated*

(Replaces S3-194325)

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

**S3-194239 KI#15 - new solution for handling UEs without AS security**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Ericsson*

**Discussion:**

Qualcomm: this doesn't mitigate the threat. Intel agreed with Qualcomm.

Qualcomm: UE capability never verified by the network.

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

**S3-194496 KI#15 - new solution for handling UEs without AS security**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Ericsson*

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

**S3-194326 Hash based UE capability protection for CP optimization only CIoT UE**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Qualcomm Incorporated*

(Replaces S3-193390)

**Discussion:**

Intel: in the Power ON scenario the initial registration request is sending the hash unprotected..

Ericsson: what happens if there is a mismatch?

Huawei also had some issues, so these comments were taken offline.

**Decision:** The document was **revised to S3-194497**.

**S3-194497 Hash based UE capability protection for CP optimization only CIoT UE**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Qualcomm Incorporated*

(Replaces S3-194326)

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

**S3-194235 Proposed conclusion to KI#1**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-194498**.

**S3-194498 Proposed conclusion to KI#1**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Ericsson*

(Replaces S3-194235)

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

**S3-194234 Proposed revision of conclusion to KI#2**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Ericsson*

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

**S3-194233 Proposed conclusion to KI#3**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Ericsson*

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

**S3-194246 Proposed conclusion to KI #14**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Ericsson*

**Discussion:**

Left open since it depended on the discussion about key issue 14.

**Decision:** The document was **revised to S3-194604**.

**S3-194604 Proposed conclusion to KI #14**

*Type: pCR For: Approval  
 33.861 v1.4.0  
 Source: Ericsson*

(Replaces S3-194246)

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

**S3-194077 Conclusion for Key issue 15**

*Type: pCR For: (not specified)  
 33.861 v1.4.0  
 Source: Intel Corporation (UK) Ltd*

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

**S3-194489 draft TR 33.861**

*Type: draft TR For: Approval  
 33.861 v1.5.0  
 Source: Ericsson*

**Discussion:**

The Chair asked if this could be sent for approval. Ericsson replied that only one key issue was left and it would be ready for the next meeting.

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

### 8.4 Study on 5G security enhancement against false base stations

**S3-194208 Updates to solution #17 - resolving Ens**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Ericsson*

**Discussion:**

Orange: confused with the terminology ("newer network?), add an editor's note about that. Get rid of the shalls, the evaluation should be removed. The network negotiation to support the feature is FFS.

**Decision:** The document was **revised to S3-194668**.

**S3-194668 Updates to solution #17 - resolving Ens**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Ericsson*

(Replaces S3-194208)

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

**S3-194107 Conclusion for RRC Resume Request Protection**

*Type: pCR For: Approval  
 33.809 v0.6.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Orange, Samsung, Qualcomm objected to this conclusion.

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

**S3-194202 Updates to solution #7 - capability negotiation**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Ericsson*

**Decision:** The document was **revised to S3-194667**.

**S3-194667 Updates to solution #7 - capability negotiation**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Ericsson*

(Replaces S3-194202)

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

**S3-194203 Updates to solution #7 - network sharing**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Ericsson*

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

**S3-194682 Updates to solution #7 - network sharing**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Ericsson*

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

**S3-194204 Updates to solution #7 - signature schemes and length**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Ericsson*

**Discussion:**

Orange: the ETSI SAGE sentences should be removed.

**Decision:** The document was **revised to S3-194683**.

**S3-194683 Updates to solution #7 - signature schemes and length**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Ericsson*

(Replaces S3-194204)

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

**S3-194109 Evaluation for solution #7**

*Type: pCR For: Approval  
 33.809 v0.6.0  
 Source: Huawei, Hisilicon*

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

**S3-194328 Evaluation on UE behaviour on detection of false signature**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Qualcomm Incorporated*

(Replaces S3-193363)

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

**S3-194329 Evaluation on signing key management**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Qualcomm Incorporated*

(Replaces S3-193364)

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

**S3-194028 5GFBS-Update for solution#11**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Apple*

**Decision:** The document was **revised to S3-194685**.

**S3-194685 5GFBS-Update for solution#11**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Apple*

(Replaces S3-194028)

**Discussion:**

Removing the editor's note on legacy USIMs.

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

**S3-194327 Shared key based MIB/SIBs integrity information provided by gNB**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Qualcomm Incorporated*

(Replaces S3-193361)

**Decision:** The document was **revised to S3-194686**.

**S3-194686 Shared key based MIB/SIBs integrity information provided by gNB**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Qualcomm Incorporated*

(Replaces S3-194327)

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

**S3-193975 5GFBS-conclusion of key issue#2**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Apple*

**Discussion:**

Overlapping with 062,108, 339. There was no consensus for a way forward for key issue 2.

Orange commented that the solutions of these documents had numerous security issues.

The Chair asked who supported and who objected every solution:

395:

Apple,Ericsson, Samsung, Commscope

Objection: Orange, Qualcomm

4062:

CableLabs, Apple, Samsung,Intel,BT,Commscope,Ericsson

Objections: Orange, Qualcomm

108:

Huawei, Qualcomm

Objection: Orange,CableLabs,Ericsson, Commscope, Apple

339:

Qualcomm, Huawei,Nokia,Deutsche Telekom,Orange

Objection: Apple, Ericsson, CableLabs

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

**S3-194062 Way forward on key issue 2 in TR 33.809**

*Type: discussion For: Endorsement  
 33.809 v..  
 Source: CableLabs*

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

**S3-194108 Conclusion for Key Issue #2**

*Type: pCR For: Approval  
 33.809 v0.6.0  
 Source: Huawei, Hisilicon*

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

**S3-194339 Proposed way forward for KI#2 in TR 33.809**

*Type: discussion For: Endorsement  
 33.809 v..  
 Source: Qualcomm Incorporated*

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

**S3-193940 LS to SA3 on False Base Station Detection**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: R3-196256*

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

**S3-193941 Reply LS to SA3 on FBS detection**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: R2-1914224*

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

**S3-194206 [DRAFT] Reply LS on false base station detection**

*Type: LS out For: Approval  
 to RAN2, cc RAN3  
 Source: Ericsson*

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

**S3-194033 Reply LS to RAN2 on FBS detection**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, HiSilicon*

**Discussion:**

Qualcomm: we don’t have the detailed answers for these questions. We need to stabilise the solutions before we can answer to RAN2.

Futurewei: if we postpone this we don’t get any progress until the July meeting next year.

Apple: work on this offline and we may agree on an answer for this meeting.

**Decision:** The document was **revised to S3-194687**.

**S3-194687 Reply LS to RAN2 on FBS detection**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, HiSilicon*

(Replaces S3-194033)

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

**S3-194032 Update solution 4 to clarify MIB/SIB Hash report**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Taken offline to keep note 3 and try to reach an agreement with Qualcomm.

**Decision:** The document was **revised to S3-194688**.

**S3-194688 Update solution 4 to clarify MIB/SIB Hash report**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

(Replaces S3-194032)

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

**S3-194330 Solution #4 Evaluation (Enriched MR)**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Qualcomm Incorporated*

(Replaces S3-193365)

**Discussion:**

Huawei didn’t agree with the text. This is talking only about the detection part. Ericsson didn’t agree either.

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

**S3-194034 Preventing UE from Connecting to FBSs**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Ericsson: this solution is not needed. This will introduce significant delay and cause the handover procedure to fail. Samsung supported this.

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

**S3-194035 Preventing UE from reselecting to FBS**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Not needed, as it doesn’t address the key issue properly.

Orange: if the message coming from the network to the UE is not delivered for any reason, the UE cannot know that the message was intended to be sent. The UE doesn’t expect this message. You just need as an attacker to prevent the delivery of this message to the UE.

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

**S3-194036 Handover UE under MitM FBS attacks**

*Type: pCR For: Approval  
 33.809 v0.5.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Ericsson: Why do you assume that the man in the middle is gone after the handover? This will not work.

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

**S3-194110 Address EN in solution 6 and solution 18**

*Type: pCR For: Approval  
 33.809 v0.6.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Nokia; whatever you send it will be accepted by the base station because you are connected to it. Nokia disagreed with the change.

Ericsson was of the similar opinion. The dumb repeater does nothing else than repeating, so why the overhead? Huawei replied that the repeater was not really dumb.

This was taken offline.

**Decision:** The document was **revised to S3-194689**.

**S3-194689 Address EN in solution 6 and solution 18**

*Type: pCR For: Approval  
 33.809 v0.6.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194110)

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

**S3-194207 Way forward - KI#3 False RBS detection**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Ericsson*

**Discussion:**

Qualcomm: perform the evaluation before concluding.

Orange: this conclusion means that we should do nothing and it is left to implementation. They didn’t agree with this way forward.

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

**S3-194205 [DRAFT] LS out to SA5 about SON poisoning**

*Type: LS out For: Approval  
 to SA5  
 Source: Ericsson*

**Discussion:**

Nokia: what do you want SA5 to do?

Orange: better talk to your SA5 colleagues about this. It is not clear what SA5 needs to do about it.

NTT-Docomo: clarify what they really need to do.

This was taken offline.

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

**S3-194144 Update of Solution#15**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Lenovo, Motorola Mobility*

**Abstract:**

Update of Solution#15

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

**S3-194190 Resolving the ENs of solution#5 in the TR 33.809**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Huawei, Hisilicon, Lenovo, Motorola Mobility*

**Discussion:**

Interdigital: refer to a generic satellite system, not specifically GPS.

Revised to address this and other comments with editor's notes.

**Decision:** The document was **revised to S3-194690**.

**S3-194690 Resolving the ENs of solution#5 in the TR 33.809**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Huawei, Hisilicon, Lenovo, Motorola Mobility*

(Replaces S3-194190)

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

**S3-194191 Conclusion on mitigation against the authentication relay attack**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Huawei, Hisilicon, Lenovo, Motorola Mobility*

**Discussion:**

Orange disagreed with it.

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

**S3-193976 5GFBS-Update for solution#7**

*Type: pCR For: Approval  
 33.809 v0.7.0  
 Source: Apple*

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

**S3-194665 Notes from the offline session on false base stations**

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

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

**S3-194684 Draft TR 33.809**

*Type: draft TR For: Approval  
 33.809 v0.8.0  
 Source: Apple*

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

### 8.5 Study on Security aspects of Enhancement of Network Slicing

**S3-194050 Conclusion to KI#3**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Orange objected to having normative work for this key issue.Ericsson agreed.

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

**S3-194051 Solution 8 update**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Ericsson: IDLE case: AMF relocation is to be avoided as an assumption, and this is implying that the relocation is needed. Capture this in the evaluation.

Interdigital: signalling overheard is a concern here.

Nokia disagreed with removing the editor's note. This didn't seem to be working.

**Decision:** The document was **revised to S3-194542**.

**S3-194542 Solution 8 update**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Huawei, HiSilicon*

(Replaces S3-194051)

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

**S3-194317 Clarifications to solution #10 on protecting S-NSSAIs**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Qualcomm Incorporated*

**Discussion:**

Interdigital: clarification of the Distribution of the Key ID is not here (Idle mode mobility). Add an editor's note about that.

Qualcomm replied that this comment hadn't been done before when they were asked to bring a contribution with additional clarifications.

**Decision:** The document was **revised to S3-194544**.

**S3-194544 Clarifications to solution #10 on protecting S-NSSAIs**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Qualcomm Incorporated*

(Replaces S3-194317)

**Discussion:**

Adding the editor's note.

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

**S3-194318 Update to the evaluation of solution #10 on protecting S-NSSAIs**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Qualcomm Incorporated*

**Discussion:**

Nokia commented that the impact of the idle mobility issue had to be considered. Ericsson: update this according to the editor's note added in the previous contribution. Nokia: retain the editor's note.

**Decision:** The document was **revised to S3-194545**.

**S3-194545 Update to the evaluation of solution #10 on protecting S-NSSAIs**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Qualcomm Incorporated*

(Replaces S3-194318)

**Discussion:**

Bringing back the editor's note.

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

**S3-194094 Adding evaluation to solution #10 in TR 33.813**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm: the previous document covers this already. We don’t agree.

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

**S3-193964 TR 33.813 - update for solution #11**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution updates the evaluation for the Solution #11.

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

**S3-193911 TR 33.813 - update for the evaluation for solution #11**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution updates the evaluation for the Solution #11.

**Discussion:**

Qualcomm: this solution doesn't protect from attacks of people with the same NSSAI. It exists for both insiders and non-insiders. Don't remove the editor's note.

Nokia: the group size is too big, it is not a corner case.

**Decision:** The document was **revised to S3-194546**.

**S3-194546 TR 33.813 - update for the evaluation for solution #11**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: InterDigital Communications*

(Replaces S3-193911)

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

**S3-194068 Update of solution #12 in TR 33.813**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: ZTE Corporation*

**Decision:** The document was **revised to S3-194547**.

**S3-194547 Update of solution #12 in TR 33.813**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: ZTE Corporation*

(Replaces S3-194068)

**Discussion:**

It brings back the last editor's note.

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

**S3-194052 Overall evaluation to solutions addressing KI#6**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Interdigital: Idle mobility needs to be revisited as we have done in previous papers. It was agreed to add an editor's note.

Qualcomm: the table is already out of date according to the progress today.

Orange: no additional value of this table for the TR.

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

**S3-194053 Conclusions to KI #6**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Huawei, HiSilicon*

**Discussion:**

Discussed together with tdoc 211.

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

**S3-194211 Conclusion on KI#6**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Ericsson, Nokia, Nokia Shanghai Bell*

**Discussion:**

Interdigital needed to see an additional analysis. The proposed solutions in the TR should be completed first before writing this evaluation.

This was noted. The Chair recommended to keep working offline with this conclusion for the next meeting in order to finish the study.

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

**S3-194059 Key Issue#7 on revocation of rejected NSSAI**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Nokia, Nokia Shnghai Bell, Lenovo, Motorola Mobility*

**Discussion:**

Orange: this looks more like a stage 3 issue. No need to have it in the document.

Lenovo commented that CT had been working in parallel to study how to do the revocation and it needed to be addressed in SA3 as well. Qualcomm commented that this was a CT1 issue, not appropriate for SA3.

Huawei stressed the importance of this issue and that it should be worked on in SA3.

Nokia: no new solution proposed here. This is aligned with CT1.

Orange: note the document and see if CT1 asks something to be done in SA3.

Orange asked to be minuted: "If needed this will be handled in the normative work."

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

**S3-194060 Solution for KI#7 on revocation of rejected NSSAI**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Nokia, Nokia Shanghai Bell, Lenovo, Motorola Mobility*

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

**S3-194143 Conclusion for KI#7**

*Type: pCR For: Approval  
 33.813 v0.7.0  
 Source: Lenovo, Motorola Mobility*

**Abstract:**

This paper proposes a conclusion for KI#7.

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

**S3-194543 Draft TR 33.813**

*Type: draft TR For: Approval  
 33.813 v0.8.0  
 Source: Nokia*

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

### 8.6 Study on SECAM and SCAS for 3GPP virtualized network products

**S3-194136 Corrections on clause 4.3**

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

**Decision:** The document was **revised to S3-194561**.

**S3-194561 Corrections on clause 4.3**

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

(Replaces S3-194136)

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

**S3-194162 remove unspecified SDOs**

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

**Decision:** The document was **revised to S3-194562**.

**S3-194562 remove unspecified SDOs**

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

(Replaces S3-194162)

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

**S3-194231 Add Definition of Execution Environment Interface in 33.818**

*Type: pCR For: Approval  
 33.818 v0.5.0  
 Source: Nokia, Nokia Shanghai Bell, China Mobile*

**Abstract:**

This pCR proposes to add the definition of execution environment interface. Some other minor changes are also proposed.

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

**S3-194141 Clarifying interfaces in clause 5.2.3.3.4 and clause 5.2.3.4.5**

*Type: pCR For: Approval  
 33.818 v0.5.0  
 Source: China Mobile*

**Decision:** The document was **revised to S3-194563**.

**S3-194563 Clarifying interfaces in clause 5.2.3.3.4 and clause 5.2.3.4.5**

*Type: pCR For: Approval  
 33.818 v0.5.0  
 Source: China Mobile,Nokia*

(Replaces S3-194141)

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

**S3-194145 Adding security requirements for GVNP of type 1**

*Type: pCR For: Approval  
 33.818 v0.5.0  
 Source: China Mobile*

**Decision:** The document was **revised to S3-194564**.

**S3-194564 Adding security requirements for GVNP of type 1**

*Type: pCR For: Approval  
 33.818 v0.5.0  
 Source: China Mobile*

(Replaces S3-194145)

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

**S3-194147 Adding security functional requirements deriving virtualisation and related test cases for GVNP of type 1**

*Type: pCR For: Approval  
 33.818 v0.5.0  
 Source: China Mobile*

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

**S3-194565 Adding security functional requirements deriving virtualisation and related test cases for GVNP of type 1**

*Type: pCR For: Approval  
 33.818 v0.5.0  
 Source: China Mobile*

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

**S3-194232 [DRAFT] LS on SECAM Accreditation for Virtualised Network Products (VNPs)**

*Type: LS out For: Approval  
 to GSMA SECAG  
 Source: Nokia, Nokia Shanghai Bell, China Mobile*

**Abstract:**

The LS is intended to ask GSMA SECAG about their plan on SECAS accreditation for virtualized network products.

**Decision:** The document was **revised to S3-194567**.

**S3-194567 LS on SECAM Accreditation for Virtualised Network Products (VNPs)**

*Type: LS out For: Approval  
 to GSMA SECAG  
 Source: Nokia, Nokia Shanghai Bell, China Mobile*

(Replaces S3-194232)

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

**S3-194612 Draft TR 33.818**

*Type: draft TR For: Approval  
 33.818 v0.6.0  
 Source: China Mobile*

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

### 8.7 Study on Security for 5GS Enhanced support of Vertical and LAN Services

**S3-194082 Address the EN in Solution #17**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Huawei, Hisilicon*

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

**S3-194423 TSC gPTP message protection**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194407)

**Abstract:**

revision of doc to reflect with title update the content in a better way

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

**S3-194083 Conclusion on protection of time synchronization**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Huawei, Hisilicon*

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

**S3-194422 TSC conclusion**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194408)

**Abstract:**

Revision, since 4408 was using the wrong baseline

**Discussion:**

Ericsson: lot of text that seems normative. SA3 should make a recommendation rather than specifying with "shalls".

Sentences were reworded to remove the "shalls".

Revised to address some Huawei's comments as well.

**Decision:** The document was **revised to S3-194552**.

**S3-194552 TSC conclusion**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194422)

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

**S3-194222 New conclusion for handling UP security policy in a 5GLAN group**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Ericsson*

**Discussion:**

Huawei: no normative work is required for this key issue.

Ericsson: Then how all Ues in the same group have the same policy then?

It was agreed to add an editor's note. The text for this was taken offline.

**Decision:** The document was **revised to S3-194555**.

**S3-194555 New conclusion for handling UP security policy in a 5GLAN group**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Ericsson,Nokia*

(Replaces S3-194222)

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

**S3-194429 Commenting on S3-194222**

*Type: pCR For: (not specified)  
 33.819 v1.3.0  
 Source: Nokia Germany*

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

**S3-193912 TR 33.819 – update for the evaluation of Hash based solution for CAG ID privacy**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution adds text and explanation to the evaluation of the Hash based solution for CAG ID privacy.

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

**S3-194381 Udpate to Solution #3**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Samsung*

**Discussion:**

Huawei didn’t agree with the new sentence in the evaluation. This was left for offline discussion. After this discussion Huawei withdrew their comments and this was approved.

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

**S3-194556 Udpate to Solution #3**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Samsung*

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

**S3-194220 New solution to preserve CAG-ID privacy**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Ericsson*

**Discussion:**

Nokia disagreed, as this was against what SA2 was doing. Huawei supported Nokia.

Ericsson: we could consider this as a solution. Nokia: come back with this if SA2 changes their mind.

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

**S3-194379 New Solution to Key Issue #6.2**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Samsung*

**Discussion:**

Huawei: impact on USIM? Samsung replied that there was none.

Qualcomm had concerns on the SUCI calculation procedures.

**Decision:** The document was **revised to S3-194557**.

**S3-194557 New Solution to Key Issue #6.2**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Samsung*

(Replaces S3-194379)

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

**S3-194221 New conclusion to preserve CAG-ID privacy**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Ericsson*

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

**S3-194377 Solution #13 Evaluation and Conclusion**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Samsung, Intel*

**Discussion:**

Thales: impacts on the ME-UICC interface need to be stated in the evaluation.

Huawei, Ericsson didn’t agree with the conclusion. This was removed.

**Decision:** The document was **revised to S3-194558**.

**S3-194558 Solution #13 Evaluation and Conclusion**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Samsung, Intel*

(Replaces S3-194377)

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

**S3-194383 Key Issue #6.1 conclusion**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Samsung*

**Discussion:**

Ericsson and Huawei didn’t agree with this conclusion. Ericsson added that the CAG ID was used to prevent access attempts, so it was unclear how this could happen. There were discussions in SA2 on whether the CAG ID should be sent at all.

This was left open.

After discussions there was no agreement and it was noted.

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

**S3-194384 Conclusion for Key Issues #6.1 and #6.2**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Samsung*

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

**S3-194163 Adding conclusion on KI #6.2**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson preferred the Nokia alternative.

Qualcomm: there is no security reason for NAS signalling, and in SA2 they are not sure whether this is needed.

Huawei: not sending CAG ID would have security issues and would affect SA2 decisions. Samsung replied that conclusion in SA3 should be done when SA2 concluded their discussions.

This was left open for discussion.

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

**S3-194403 CAG ID privacy conclusion**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

Interdigital: wait for SA2's conclusions.

Sebastian (Qualcomm): no need to wait, SA3 can work on this and give their view on CAG ID privacy. Futurewei commented that it just has to be protected and that's the view.

The Chair asked if SA3 could agree on their view on CAG ID privacy and send it to other groups.

Interdigital: this is solution-specific.

This was left for offline discussions in order to agree on a common view that could be sent to SA2.

Samsung thought that it was too early and they needed to wait for SA2. Interdigital supported this.

Qualcomm, Ericsson supported going for the study now.

**Decision:** The document was **revised to S3-194693**.

**S3-194693 CAG ID privacy conclusion**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194403)

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

**S3-194554 Reply LS on Sending CAG ID in NAS layer**

*Type: LS in For: discussion  
 Original outgoing LS: -, to -, cc -  
 Source: R3-197591*

**Discussion:**

Nokia: we should add in the conclusion clause that for the broadcast part CAG ID privacy will not be considered given the complexity of the possible solutions.

Ericsson commented that there was no need to send the CAG ID in the NAS layer as RAN3 had concluded. Qualcomm added that only if it went through the NAS it would be protected.

**Decision:** The document was **replied to in S3-194559**.

**S3-194559 Reply to: Reply LS on Sending CAG ID in NAS layer**

*Type: LS out For: approval  
 to RAN3,RAN2, cc CT1  
 Source: Qualcomm*

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

**S3-194407 TSC gPTP message protection**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-194423**.

**S3-194408 TSC conclusion**

*Type: pCR For: Approval  
 33.819 v1.3.0  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-194422**.

**S3-194551 Draft TR 33.819**

*Type: draft TR For: Approval  
 33.819 v1.4.0  
 Source: Nokia*

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

**S3-194696 Presentation of TR 33.819 to SA plenary**

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

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

### 8.8 Study on LTKUP Detailed solutions

**S3-193988 LTKUP: editorial corrections to solution 5 in TR 33.935**

*Type: pCR For: Approval  
 33.935 v0.1.0  
 Source: THALES*

**Abstract:**

Editorial corrections to solution 5 in 3GPP TR 33.935

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

**S3-194634 Draft TR 33.935**

*Type: draft TR For: Approval  
 33.935 v0.2.0  
 Source: Vodafone*

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

### 8.9 Study on User Plane Integrity Protection

**S3-193972 UP IP-update for solution#9**

*Type: pCR For: Approval  
 33.853 v0.6.0  
 Source: Apple*

**Discussion:**

Qualcomm had some issues with this and it was left open.

**Decision:** The document was **revised to S3-194698**.

**S3-194698 UP IP-update for solution#9**

*Type: pCR For: Approval  
 33.853 v0.6.0  
 Source: Apple*

(Replaces S3-193972)

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

**S3-194120 UE activates UP IP over eUTRA to EPC**

*Type: pCR For: Approval  
 33.853 v0.6.0  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: remove the evaluation.

Vodafone proposed to add an editor's note in order to have something that could be changed instead of starting from zero.

Qualcomm agreed to remove the evaluation. This implied a major impact and a proper study was needed here.

**Decision:** The document was **revised to S3-194671**.

**S3-194671 UE activates UP IP over eUTRA to EPC**

*Type: pCR For: Approval  
 33.853 v0.6.0  
 Source: Huawei, Hisilicon*

(Replaces S3-194120)

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

**S3-194121 Update conclusion clause**

*Type: pCR For: Approval  
 33.853 v0.6.0  
 Source: Huawei, Hisilicon*

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

**S3-194151 Revise the Evaluations for Solution 5 in TR 33.853**

*Type: pCR For: (not specified)  
 33.853 v0.6.0  
 Source: China Mobile*

**Discussion:**

Vodafone: it needs better English.

Qualcomm didn’t agree with the document.

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

**S3-194152 Discussion on the UP IP for 5G RAN connected 5GC**

*Type: discussion For: Endorsement  
 33.853 v..  
 Source: China Mobile*

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

**S3-194154 Add the conclusion on the UP IP for 5G RAN connected to 5GC**

*Type: pCR For: (not specified)  
 33.853 v0.6.0  
 Source: China Mobile International Ltd*

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

**S3-194230 Add the conclusion on the UP IP for 5G RAN connected to 5GC**

*Type: pCR For: Approval  
 33.853 v0.6.0  
 Source: China Mobile*

**Discussion:**

Vodafone didn’t see where this solution was coming from.

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

**S3-194289 UP-IP: Resolving editor's note in solution #7**

*Type: pCR For: Approval  
 33.853 v0.6.0  
 Source: Ericsson*

**Discussion:**

Qualcomm: this doesn’t address the RAN part.

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

**S3-194290 Conclusion on Key Issue 6: UE connected to 5GC indicating support of UP IP over eUTRA**

*Type: pCR For: Approval  
 33.853 v0.6.0  
 Source: Ericsson*

**Discussion:**

Competing with 338.

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

**S3-194338 Proposed conclusion for KI#6 in TR 33.853**

*Type: pCR For: Approval  
 33.853 v0.6.0  
 Source: Qualcomm Incorporated*

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

**S3-194396 Conclusion to Key Issue #5**

*Type: pCR For: Approval  
 33.853 v0.6.0  
 Source: Samsung*

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

**S3-194672 Draft TR 33.853**

*Type: draft TR For: Approval  
 33.853 v0.7.0  
 Source: Vodafone*

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

### 8.10 Study on Security Impacts of Virtualisation

**S3-194002 DTR 33848 KI1 – clause 5\_2\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

Different trust domains require isolation. The proposed potential security requirements explicitly identify the need to manage and support different trust domains and their security policies.

**Decision:** The document was **revised to S3-194568**.

**S3-194568 DTR 33848 KI1 – clause 5\_2\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194002)

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

**S3-194003 DTR 33848 KI2 – clause 5\_3\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This potential security requirement proposes that the network manages permission controls on the exchange of information between NFs/sub-NFs to ensure that sensitive information is not leaked for exposed.

**Decision:** The document was **revised to S3-194569**.

**S3-194569 DTR 33848 KI2 – clause 5\_3\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194003)

**Discussion:**

China Mobile asked to be minuted :The requirement is not complete.

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

**S3-194004 DTR 33848 KI3 – clause 5\_4\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

The proposed potential security requirement identifies that the NFV Management and Orchestration Function may control the availability of virtualized network resources for key/required core network functions

**Decision:** The document was **revised to S3-194570**.

**S3-194570 DTR 33848 KI3 – clause 5\_4\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194004)

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

**S3-194005 DTR 33848 KI4 – clause 5\_5\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution adds a potential security requirement for the Security Edge Protection Proxy (SEPP) to reduce the threat of cascading network failure and/or software vulnerabilities.

**Decision:** The document was **revised to S3-194571**.

**S3-194571 DTR 33848 KI4 – clause 5\_5\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194005)

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

**S3-194006 DTR 33848 KI5 – clause 5\_6\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This proposed text explicitly identifies the need for clearing resources upon transfer/termination and prior to re-use to increase the protection of sensitive information and prevent leakage across NFs.

**Decision:** The document was **revised to S3-194572**.

**S3-194572 DTR 33848 KI5 – clause 5\_6\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194006)

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

**S3-194007 DTR 33848 KI6 – clause 5\_7\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

Explicit potential requirements for reference point-based security and the use of encryption for data in transit are proposed to assist in isolating NFs.

**Decision:** The document was **revised to S3-194573**.

**S3-194573 DTR 33848 KI6 – clause 5\_7\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194007)

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

**S3-194008 DTR 33848 KI7 – clause 5\_8\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

Explicit potential requirements for the control of the hypervisor and for separation are proposed to protect memory.

**Decision:** The document was **revised to S3-194574**.

**S3-194574 DTR 33848 KI7 – clause 5\_8\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194008)

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

**S3-194009 DTR 33848 KI8 – clause 5\_9\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes explicit potential requirements for the security assurance testing in a virtualized environment to mitigate testing isolation and improve security of a virtualized 3GPP network.

**Decision:** The document was **revised to S3-194575**.

**S3-194575 DTR 33848 KI8 – clause 5\_9\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194009)

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

**S3-194010 DTR 33848 KI9 – clause 5\_10\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes explicit potential requirements for the 3GPP network to securely manage slice isolation and ensure that the security and trust domain policies are enforced.

**Decision:** The document was **revised to S3-194576**.

**S3-194576 DTR 33848 KI9 – clause 5\_10\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194010)

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

**S3-194011 DTR 33848 KI11 – clause 5\_12\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes an explicit potential requirement for the 3GPP network to manage key storage and confidential data access to protect against compromise.

**Decision:** The document was **revised to S3-194578**.

**S3-194578 DTR 33848 KI11 – clause 5\_12\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194011)

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

**S3-194012 DTR 33848 KI12 – clause 5\_13\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes an explicit potential requirement for the 3GPP network to be able to control the data centre location and routing in order to provide security attestation, provide commensurate security needed for services, and meet legal/regular

**Decision:** The document was **revised to S3-194579**.

**S3-194579 DTR 33848 KI12 – clause 5\_13\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194012)

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

**S3-194013 DTR 33848 KI13 – clause 5\_14\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes explicit potential security requirements for the 3GPP network to be able to attest to the trustworthiness of VNFs or the NFVI.

**Decision:** The document was **revised to S3-194580**.

**S3-194580 DTR 33848 KI13 – clause 5\_14\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194013)

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

**S3-194014 DTR 33848 KI14 – clause 5\_15\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

• This contribution proposes an explicit potential requirement for the 3GPP network to prevent and detect unauthorized VNF host spanning.

**Decision:** The document was **revised to S3-194581**.

**S3-194581 DTR 33848 KI14 – clause 5\_15\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194014)

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

**S3-194015 DTR 33848 KI15 – clause 5\_16\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes explicit potential requirements for the 3GPP network to increase data protection by controlling the host(s) that can encrypt/decrypt data and prevent/detect unauthorized data access and manipulation.

**Decision:** The document was **revised to S3-194584**.

**S3-194584 DTR 33848 KI15 – clause 5\_16\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194015)

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

**S3-194016 DTR 33848 KI16 – clause 5\_17\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

In a mixed network deployment, the network’s security policies for the PNFs and VNFs need to be coordinated and complementary. This contribution proposes an explicit potential requirement to do this.

**Decision:** The document was **revised to S3-194585**.

**S3-194585 DTR 33848 KI16 – clause 5\_17\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194016)

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

**S3-194017 DTR 33848 KI17 – clause 5\_18\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes a potential security requirements for the 3GPP network to isolate and protect the software catalogue and associated image exposure in a secure environment.

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

**S3-194018 DTR 33848 KI18 – clause 5\_19\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

There were no potential security requirements for this key issues, so this contribution proposes a potential requirement for the 3GPP network to protect any certification or information held in a sensitive NF.

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

**S3-194019 DTR 33848 KI19 – clauses 5\_20\_2 and 3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes a security threat and a potential requirement to address the vulnerability of network timing in a virtualized environment.

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

**S3-194020 DTR 33848 KI20 – clause 5\_21\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes explicit potential requirements for 3rd party hosting environments that provide increased subscriber security and enable the operator to meet legal/regulatory requirements.

**Decision:** The document was **revised to S3-194589**.

**S3-194589 DTR 33848 KI20 – clause 5\_21\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194020)

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

**S3-194021 DTR 33848 KI21 – clause 5\_22\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes an explicit potential requirement for the network to prevent and detect attacks that tunnel through the virtualisation layer.

**Decision:** The document was **revised to S3-194590**.

**S3-194590 DTR 33848 KI21 – clause 5\_22\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194021)

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

**S3-194022 DTR 33848 KI22 – clause 5\_23\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes explicit potential requirements for to harden the 3GPP NFV MANO from single point of failures and attacks.

**Decision:** The document was **revised to S3-194591**.

**S3-194591 DTR 33848 KI22 – clause 5\_23\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194022)

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

**S3-194023 DTR 33848 KI23 – clause 5\_24\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

This contribution proposes a potential requirement for the 3GPP network to pass security policy to the hypervisor(s) to improve the security of NF resource selection.

**Decision:** The document was **revised to S3-194592**.

**S3-194592 DTR 33848 KI23 – clause 5\_24\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194023)

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

**S3-194024 DTR 33848 KI24 – clause 5\_25\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

**Abstract:**

Dynamic allocation of memory addresses mitigate against distributed monitoring attacks. This contribution proposes the requirement for the hypervisor to dynamically assign VNF resources to improve network security

**Decision:** The document was **revised to S3-194593**.

**S3-194593 DTR 33848 KI24 – clause 5\_25\_3**

*Type: other For: Approval  
 33.848 v..  
 Source: T-Mobile USA Inc.*

(Replaces S3-194024)

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

**S3-194353 TR 33.848 Solution – lock-down of infrastructure**

*Type: pCR For: Approval  
 33.848 v0.4.0  
 Source: NCSC*

**Decision:** The document was **revised to S3-194582**.

**S3-194582 TR 33.848 Solution – lock-down of infrastructure**

*Type: pCR For: Approval  
 33.848 v0.4.0  
 Source: NCSC*

(Replaces S3-194353)

**Discussion:**

Thales: do we need to point out what is in scope of ETSI NFV?

MCC warned that this was an internal 3GPP specification and could not be shared with external to 3GPP groups. Alex (BT) argued that this was a public document and ETSI being an organizational partner wasn't an impediment to share the specification. MCC commented that this wasn’t enough and that the spec should be changed to a 900 series specification in order to be officially sent to ETSI NFV.

This was to be discussed further offline.

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

**S3-194354 TR 33.848 Solution – trust domains and separation**

*Type: pCR For: Approval  
 33.848 v0.4.0  
 Source: NCSC*

**Decision:** The document was **revised to S3-194583**.

**S3-194583 TR 33.848 Solution – trust domains and separation**

*Type: pCR For: Approval  
 33.848 v0.4.0  
 Source: NCSC*

(Replaces S3-194354)

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

**S3-194398 Requirements for KI#18 The Startup Paradox**

*Type: pCR For: Approval  
 33.848 v0.4.0  
 Source: Ericsson*

**Abstract:**

potential security requirements for Key Issue 18, the startup paradox

**Decision:** The document was **revised to S3-194587**.

**S3-194587 Requirements for KI#18 The Startup Paradox**

*Type: pCR For: Approval  
 33.848 v0.4.0  
 Source: Ericsson*

(Replaces S3-194398)

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

**S3-194432 Comments to S3-194019 DTR 33.848, Key Issue #19 Clauses 5.20.2 and 5.20.3**

*Type: pCR For: Approval  
 33.848 v0.4.0  
 Source: Ericsson*

**Abstract:**

Comments to S3-194019 DTR 33.848, Key Issue #19 Clauses 5.20.2 and 5.20.3

**Decision:** The document was **revised to S3-194588**.

**S3-194588 Comments to S3-194019 DTR 33.848, Key Issue #19 Clauses 5.20.2 and 5.20.3**

*Type: pCR For: Approval  
 33.848 v0.4.0  
 Source: Ericsson,T-Mobile*

(Replaces S3-194432)

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

**S3-194560 Notes on the security impacts on the virtualization offline session**

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

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

**S3-194624 Draft TR 33.848**

*Type: draft TR For: Approval  
 33.848 v0.5.0  
 Source: BT*

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

### 8.11 Study on authentication enhancements in 5GS (FS\_AUTH\_ENH)

**S3-194346 New KI: Existing authentication procedure lacking the PFS property**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: Ericsson,Apple, China Mobile, ZTE, Nokia*

(Replaces S3-194297)

**Discussion:**

Thales: it's been 4 times that this contribution has been brought here and last time there was a show of hands and it was rejected. We still object to the additional complexity that the addition of PFS mechanisms will bring.

T-Mobile: it's a study, nothing normative and it is to be investigated. Thales replied that there was enough work already to bring in a new study item.

Vodafone: no point of bringing this again if it was rejected before.

Ericsson asked a show of hands. Who objected the key issue:

Thales, IDEMIA, Qualcomm,Orange,Vodafone.

Companies supporting the key issue:

Apple Ericsson Nokia, ZTE,China Mobile, Huawei, ZTE, HP, T-Mobile

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

**S3-194189 Resolving the ENs in KI#3.1**

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

**Discussion:**

Vodafone: don’t mention CT4, refer to their spec.

Ericsson: keep the editor's notes.

Vodafone: correct the English.

Orange commented that this looked like the problem was coming from CT4, so it had to be fixed in there and not in SA3.

Nokia: delete the key issue and send an LS.

Orange: keep the key issue and delete the requirements.

This was taken offline.

**Decision:** The document was **revised to S3-194673**.

**S3-194673 Resolving the ENs in KI#3.1**

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

(Replaces S3-194189)

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

**S3-194069 Update of key issue #3.2 in TR 33.846**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: ZTE Corporation*

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

**S3-194084 Address the EN on the reference in key issue 4.1**

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

**Discussion:**

Overlapping with tdoc 026.

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

**S3-194071 Update of solution #2.1 in TR 33.846**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: ZTE Corporation*

**Discussion:**

Ericsson: no evaluation yet for this one. Vodafone commented that the tendency was to remove the evaluations from the solutions so a different party could write them.

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

**S3-194086 Address the EN on the NAS procedure impact in Solution#2.4**

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

**Discussion:**

Ericsson: it doesn’t really address the editor's note. This had to be taken offline.

Huawei asked to be minuted:

"Ericsson rejected the contribution without any explanation."

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

**S3-193974 AUTH\_Enh-Evaluation for solution#2.4**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: Apple*

**Discussion:**

Thales: this solution does not lead to another kind of attack. The last paragraph had to be reformulated.

**Decision:** The document was **revised to S3-194677**.

**S3-194677 AUTH\_Enh-Evaluation for solution#2.4**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: Apple*

(Replaces S3-193974)

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

**S3-194188 Resolving the ENs of solution#2.5 in the TR 33.846**

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

**Discussion:**

Vodafone: describe how the MAC will impacted. The solution relies on the handset based SUCI mechanism.

China Mobile: where is the key in step2? Add that the solution doesn't apply to legacy USIMs.

**Decision:** The document was **revised to S3-194678**.

**S3-194678 Resolving the ENs of solution#2.5 in the TR 33.846**

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

(Replaces S3-194188)

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

**S3-194070 Solution of mitigating the SUPI guessing attacks**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: ZTE Corporation*

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

**S3-194026 AUTH\_Enh-update for solution#4.1**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: Apple*

**Decision:** The document was **revised to S3-194675**.

**S3-194675 AUTH\_Enh-update for solution#4.1**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: Apple,Huawei*

(Replaces S3-194026)

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

**S3-194085 Add solution details and evaluation to solution 4.1**

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

**Discussion:**

Qualcomm had issues with the figure and the evaluation. They suggested to send this evaluation to SAGE to confirm that this assumption was Ok.

The evaluation was removed.

**Decision:** The document was **revised to S3-194679**.

**S3-194679 Add solution details and evaluation to solution 4.1**

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

(Replaces S3-194085)

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

**S3-194316 Update to the evaluation of solution #4.1 on protecting SQN in AKA re-synchronisations**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: Qualcomm Incorporated*

**Discussion:**

Apple: two editor's notes on more evaluation needed and how to deal with the legacy and new USIM.

**Decision:** The document was **revised to S3-194681**.

**S3-194681 Update to the evaluation of solution #4.1 on protecting SQN in AKA re-synchronisations**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: Qualcomm Incorporated*

(Replaces S3-194316)

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

**S3-194169 Conclusion on KI #4.1**

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

**Discussion:**

Nokia: don’t include internal GSMA internal papers in the zip file. Huawei's understanding was that the research paper had been made public, although a reference should have been added instead of adding the paper.

Qualcomm didn’t agree with the solution and conclusions.

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

**S3-193973 AUTH\_Enh-update for solution#9**

*Type: pCR For: Approval  
 33.846 v0.4.0  
 Source: Apple*

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

**S3-194297 New KI: Existing authentication procedure lacking the PFS property**

*Type: pCR For: (not specified)  
 33.846 v0.4.0  
 Source: Ericsson*

**Abstract:**

The objective of the key issue is to perform a risk analysis for the introduction of the PFS property in the existing authentication procedures.

**Decision:** The document was **revised to S3-194346**.

**S3-194674 LS on deleting invalid authentication results in UDM**

*Type: LS out For: Approval  
 to CT4  
 Source: Huawei*

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

**S3-194676 Draft TR 33.846**

*Type: draft TR For: Approval  
 33.846 v0.5.0  
 Source: Ericsson*

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

**S3-194680 LS on resynchronization**

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

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

### 8.12 Study on Security for NR Integrated Access and Backhaul

**S3-194072 Key issue on security attack caused by IAB-node with removable UICC card**

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

**Discussion:**

Orange: this is a deployment decision, up to the network operator.

Qualcomm: we don’t need this key issue. IDEMIA agreed.

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

**S3-194089 Security attack caused by an unauthorized IAB device**

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

**Discussion:**

Orange: the note doesn’t make sense without the requirements.

Nokia: it assumes that removing the UICC and putting into another IAB node it becomes another IAB node. This is not true.

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

**S3-194364 Updates to Solution #2.1 on MT functionality**

*Type: pCR For: Approval  
 33.824 v0.5.0  
 Source: Samsung, Qualcomm Incorporated, Ericsson, Nokia, Nokia Shanghai Bell*

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

**S3-194366 Updates and evaluation of solution #3.1**

*Type: pCR For: Approval  
 33.824 v0.5.0  
 Source: Samsung*

**Discussion:**

Thales, Nokia supported this.

Qualcomm: no requirement to have the additional authorization check. Why is this here?

Samsung: RAN2 is working on the identification of co-location and verification of the authorization part. It was agreed to remove the sentence where this was mentioned.

Qualcomm had numerous comments including the evaluation as well. Both Nokia and Qualcomm had competing evaluations.

**Decision:** The document was **revised to S3-194577**.

**S3-194577 Updates and evaluation of solution #3.1**

*Type: pCR For: Approval  
 33.824 v0.5.0  
 Source: Samsung*

(Replaces S3-194366)

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

**S3-194331 Evaluation on Solution #3.1**

*Type: pCR For: Approval  
 33.824 v0.5.0  
 Source: Qualcomm Incorporated, Ericsson*

(Replaces S3-193358)

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

**S3-194332 Evaluation on Solution #4.2**

*Type: pCR For: Approval  
 33.824 v0.5.0  
 Source: Qualcomm Incorporated, Ericsson*

**Discussion:**

Nokia: problematic to use the same F1.

Samsung: it becomes more complex with wireless. There would be different procedures. Efficient in wireline would not be efficient with the wireless. The same wireline solution for the wireless would not be necessarily equally efficient.

An additional sentence in the evaluation was to be discussed offline.

**Decision:** The document was **revised to S3-194586**.

**S3-194586 Evaluation on Solution #4.2**

*Type: pCR For: Approval  
 33.824 v0.5.0  
 Source: Qualcomm Incorporated, Ericsson*

(Replaces S3-194332)

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

**S3-194333 Conclusion on KI #4.1**

*Type: pCR For: Approval  
 33.824 v0.5.0  
 Source: Qualcomm Incorporated, Ericsson*

(Replaces S3-193359)

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

**S3-194073 Definition of IAB-MT**

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

**Discussion:**

Not needed anymore.

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

**S3-194566 Draft TR 33.824**

*Type: draft TR For: Approval  
 33.824 v0.6.0  
 Source: Samsung*

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

### 8.13 Study on Security Aspects of 3GPP support for Advanced V2X Services

**S3-193960 33.836 – update of evaluation for the Solution #1**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution updates the evaluation for the Solution #1.

**Decision:** The document was **revised to S3-194616**.

**S3-194616 33.836 – update of evaluation for the Solution #1**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: InterDigital Communications*

(Replaces S3-193960)

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

**S3-193961 TR 33.836 – update of evaluation for the solution #4**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution updates the evaluation for the solution #4.

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

**S3-194617 TR 33.836 – update of evaluation for the solution #4**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: InterDigital Communications*

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

**S3-193962 TR 33.836 - proposed conclusion for KI#1**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: InterDigital Communications*

**Abstract:**

This PCR provides conclusion for KI#1.

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

**S3-194309 Proposed conclusion for Key Issue #1 on Unicast privacy**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

**Discussion:**

It was asked to be minuted: The agreement is to use solution 1.

**Decision:** The document was **revised to S3-194618**.

**S3-194618 Proposed conclusion for Key Issue #1 on Unicast privacy**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated,Interdigital*

(Replaces S3-194309)

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

**S3-193959 TR 33.836 – update of evaluation for the solution #2**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: InterDigital Communications*

**Abstract:**

This contribution updates the evaluation for the Solution #2.

**Decision:** The document was **revised to S3-194620**.

**S3-194620 TR 33.836 – update of evaluation for the solution #2**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: InterDigital Communications*

(Replaces S3-193959)

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

**S3-194303 Resolving the Editor’s note on privacy in the evaluation of solution #8**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

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

**S3-194621 Resolving the Editor’s note on privacy in the evaluation of solution #8**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

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

**S3-194081 Updates to solution 9**

*Type: pCR For: (not specified)  
 33.836 v0.4.0  
 Source: Intel Corporation (UK) Ltd*

**Decision:** The document was **revised to S3-194619**.

**S3-194619 Updates to solution 9**

*Type: pCR For: -  
 33.836 v0.4.0  
 Source: Intel Corporation (UK) Ltd*

(Replaces S3-194081)

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

**S3-194306 Proposal of an evaluation of solution #12 on protecting the traffic at the PDCP layer**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

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

**S3-194622 Proposal of an evaluation of solution #12 on protecting the traffic at the PDCP layer**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

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

**S3-194302 Adding the provisioning of security policy to solution #16**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-194623**.

**S3-194623 Adding the provisioning of security policy to solution #16**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

(Replaces S3-194302)

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

**S3-194307 Proposal of an evaluation of solution #16 on the activation of user plane security in NR PC5 unicast**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

**Discussion:**

Interdigital: the solution is needed but we need a key issue for this.

Qualcomm replied that it was part of key issue 2, protection of UP data.

Revised to address this comment.

**Decision:** The document was **revised to S3-194646**.

**S3-194646 Proposal of an evaluation of solution #16 on the activation of user plane security in NR PC5 unicast**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

(Replaces S3-194307)

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

**S3-194173 Resolving the EN and adding the evaluation of solution #17**

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

**Discussion:**

Interdigital disagreed with the first paragraph. This was removed.

**Decision:** The document was **revised to S3-194647**.

**S3-194647 Resolving the EN and adding the evaluation of solution #17**

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

(Replaces S3-194173)

**Discussion:**

Added a statement on the solution being suitable for apps when the operators know the keys.

Addressing Privacy issues with GUTI aspects.

First paragraph removed and last paragraph reworded.

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

**S3-194175 eV2X: Solution for the UP security activation policy handling in NR PC5 unicast**

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

**Discussion:**

Interdigital: linked to the new requirement we added in a previous document on key issue 2.

**Decision:** The document was **revised to S3-194648**.

**S3-194648 eV2X: Solution for the UP security activation policy handling in NR PC5 unicast**

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

(Replaces S3-194175)

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

**S3-194304 Protection of IEs in Direct Communication Request message**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-194649**.

**S3-194649 Protection of IEs in Direct Communication Request message**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

(Replaces S3-194304)

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

**S3-194305 Proposal of an evaluation of solution protecting IEs in Direct Communication Request message**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

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

**S3-194308 Proposal conclusion for key issue #2 on security for eV2X unicast messages over PC5**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

**Discussion:**

Competing conclusion with Huawei's proposals in the following contributions.

**Decision:** The document was **revised to S3-194650**.

**S3-194650 Proposal conclusion for key issue #2 on security for eV2X unicast messages over PC5**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated,Interdigital,Huawei*

(Replaces S3-194308)

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

**S3-194176 eV2X: Conclusion on one requirement of KI#2**

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

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

**S3-194174 eV2X: Conclusion on KI#2**

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

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

**S3-194178 eV2X: Conclusion on KI#2**

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

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

**S3-193963 TR 33.836 - Proposed conclusion for KI#2**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: InterDigital Communications*

**Abstract:**

This PCR proposes conclusion for KI#2.

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

**S3-194148 Update of solution#14**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Lenovo, Motorola Mobility*

**Abstract:**

This contribution provides an update to Solution #14: Identifier conversion in groupcast communication.

**Discussion:**

Huawei: this is not addressing the availability part of the editor's note.

Lenovo: the UE has an internal clock and we don’t depend on any time information from the outside.

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

**S3-194149 Solution#14 Evaluation**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Lenovo, Motorola Mobility*

**Abstract:**

This contribution provides the evaluation for Solution #14: Identifier conversion in groupcast communication.

**Discussion:**

Ericsson: what happens if you are running out of battery?

Lenovo: same as going out of coverage.

For LG the evaluation needed to be completed with additional statements on UE out of coverage scenario.

**Decision:** The document was **revised to S3-194651**.

**S3-194651 Solution#14 Evaluation**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Lenovo, Motorola Mobility*

(Replaces S3-194149)

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

**S3-194413 Privacy solution for groupcast**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

Huawei didn’t agree with the solution, as this was against SA2's work on the creation and management of the group.

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

**S3-194414 Evaluation to privacy solution for groupcast**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-194041 New Solution for secure identifier conversion in groupcast**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Huawei, HiSilicon*

**Discussion:**

LG: not aligned with SA2 architecture.

Orange: add an editor's note to improve this alignment.

Huawei clarified that this was part of the SA2 architecture and not something new.

Interdigital: group setup and provisioning need coverage. That's a problem. An editor's note was added about this.

Orange: remove the evaluation part, this is not complete.

**Decision:** The document was **revised to S3-194653**.

**S3-194653 New Solution for secure identifier conversion in groupcast**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Huawei, HiSilicon*

(Replaces S3-194041)

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

**S3-194155 Solution for destination L2 privacy**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Ericsson*

**Abstract:**

new solution against V2X UE tracking based on PC5 destination L2 identifier

**Discussion:**

Huawei disagreed with this solution. There were several issues that were not specified.

Lenovo: How many IDs will you have to ensure your privacy? What will be the size of the set of the group IDs?

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

**S3-194037 Conclusion for Key Issue #3**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Huawei, HiSilicon*

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

**S3-194038 Conclusion for Key Issue #4**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Huawei, HiSilicon*

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

**S3-194310 Proposed conclusion for Key Issue #4 on security of identifier conversion in groupcast communication**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

**Discussion:**

Huawei didn’t agree with this conclusion.

LG supported Qualcomm.

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

**S3-194311 Proposed conclusion for Key Issue #6 on Security of the UE service authorization and revocation**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Qualcomm Incorporated*

**Discussion:**

Huawei contribution had the same conclusion but Qualcomm was happy with going forward with tdoc 044.

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

**S3-194044 Conclusions to KI #6**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Huawei, HiSilicon*

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

**S3-194097 Providing analysis to Solution #13 in TR 33.836**

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

**Discussion:**

Interdigital: it's a solution adopted from SA2 but not an invention of SA3.

It was added a reference to the SA2 spec where this was coming from.

**Decision:** The document was **revised to S3-194654**.

**S3-194654 Providing analysis to Solution #13 in TR 33.836**

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

(Replaces S3-194097)

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

**S3-194039 Conclusion for Key Issue #8**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Huawei, HiSilicon*

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

**S3-194074 Add a note to key issue #9 in TR 33.836**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: ZTE Corporation*

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

**S3-194095 Providing some updates to Solution #15 in TR 33.836**

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

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

**S3-194096 Evaluation of Solution #15 in TR 33.836**

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

**Discussion:**

Interdigital: no requirements for key issue 9. Then we cannot have an evaluation. Huawei replied that this was an optimization issue and not security specific. Interdigital asked what was being solved here.

Huawei asked where this could be handled then. LG replied that possibly RAN2 and an LS could be sent to them.

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

**S3-194042 New solution to KI#9**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-194697**.

**S3-194697 New solution to KI#9**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Huawei, HiSilicon*

(Replaces S3-194042)

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

**S3-194040 Conclusion for Key Issue #9**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Huawei, HiSilicon*

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

**S3-193981 Conclusion for Key issue 9**

*Type: pCR For: Agreement  
 33.836 v0.4.0  
 Source: LG Electronics Inc.*

**Discussion:**

Huawei proposed to wait for RAN2 response to the LS before concluding on this key issue. Qualcomm disagreed and preferred to conclude this in the current meeting. It's been taken on by other groups already (e.g. SA2).

MCC suggested to remove the second sentence which was mentioning other working groups; as confirmed by Qualcomm this was already considered in other working groups anyway.

Nokia suggested to add text on this key issue being out of scope of SA3.

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

**S3-194656 Conclusion for Key issue 9**

*Type: pCR For: Agreement  
 33.836 v0.4.0  
 Source: LG Electronics Inc.*

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

**S3-193980 Conclusion for Key issue 10**

*Type: pCR For: Agreement  
 33.836 v0.4.0  
 Source: LG Electronics Inc.*

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

**S3-194177 eV2X: conclusion on KI #10**

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

**Decision:** The document was **revised to S3-194657**.

**S3-194657 eV2X: conclusion on KI #10**

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

(Replaces S3-194177)

**Discussion:**

Removing "release 16" from the conclusion as MCC explained that this was a release 16 document anyway hence there was no need to mention it.

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

**S3-193990 Draft LS on PC5 unicast and groupcast security protection**

*Type: LS out For: Decision  
 to SA2, cc RAN2  
 Source: InterDigital Communications*

**Abstract:**

The purpose of this LS is to follow up on the LS on PC5 unicast and groupcast security protection.

**Discussion:**

Qualcomm agreed with the LS but they wanted to enhance the first bullet.

**Decision:** The document was **revised to S3-194658**.

**S3-194658 LS on PC5 unicast and groupcast security protection**

*Type: LS out For: Decision  
 to SA2, cc RAN2  
 Source: InterDigital Communications*

(Replaces S3-193990)

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

**S3-194043 Addition of security threats and security requirements to KI#9**

*Type: pCR For: Approval  
 33.836 v0.4.0  
 Source: Huawei, HiSilicon*

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

**S3-194179 Clarification on aspects specific to the network product class UDM and AMF**

*Type: CR For: Approval  
 33.926 v16.1.0 CR-0030 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-194419**.

**S3-194626 Draft TR 33.836**

*Type: draft TR For: Approval  
 33.836 v0.5.0  
 Source: Lge*

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

**S3-194655 LS on minimizing the impact of privacy protection mechanisms in the application layer**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei*

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

### 8.14 Study on storage and transport of the security parameters in a 5GC, that are used by the ARPF for Authentication

**S3-193986 Authentication subscription data**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: KPN, Nokia*

**Abstract:**

This contribution specifies the concept of authentication subscription data which is data that is stored and is needed for the generation of authentication vectors in the UDM/ARPF.

**Discussion:**

Ericsson: possible to merge with 292.

Nokia: address 2G and 3G?

China Mobile had issues with the AMF in the case of the subscriber using 3G or 4G as well.

Orange disagreed with Note 2.The SUPI specific parameter is part of the authentication subscription data when it is derived. The note was removed.

**Decision:** The document was **revised to S3-194660**.

**S3-194660 Authentication subscription data**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: KPN, Nokia*

(Replaces S3-193986)

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

**S3-194247 Key issue on Protection of long-term key during storage in UDR**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: KPN, Nokia, Nokia Shanghai Bell*

**Abstract:**

This contribution introduces a key issue on the protection of the long-term key during storage in the UDR.

**Discussion:**

Vodafone: missing the threat on the user data being uncovered (decoding previously recorded previous communications) when the long term key is known by the attacker.

Orange: who is the entity targeted in the first requirement?

NTT-Docomo: another missing threat on someone stealing the service on behalf of someone else. A consumer paying for someone else using their service. Copying a protected key in a different subscription. Then the corresponding requirement.

IDEMIA: remove the sentence on creating unauthorised USIMs.

**Decision:** The document was **revised to S3-194661**.

**S3-194661 Key issue on Protection of long-term key during storage in UDR**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: KPN, Nokia, Nokia Shanghai Bell*

(Replaces S3-194247)

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

**S3-194249 Key issue on Protection of long-term key during transfer out of UDR**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: KPN, Nokia, Nokia Shanghai Bell*

**Abstract:**

This contribution introduces a key issue on the protection of the long-term key during transfer from UDR to UDM/ARPF.

**Discussion:**

Orange had problems with the requirements. Related to the previous document (661).

**Decision:** The document was **revised to S3-194662**.

**S3-194662 Key issue on Protection of long-term key during transfer out of UDR**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: KPN, Nokia, Nokia Shanghai Bell*

(Replaces S3-194249)

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

**S3-194291 ARPF Deployment models**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: Ericsson*

**Discussion:**

Vodafone asked why this had become an informative annex.

Nokia commented that the clause was not completely related to the study but it was worth including it. Vodafone commented that as a TR all content was informative anyway.

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

**S3-194292 Security Parameter Storage**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: Ericsson*

**Discussion:**

KPN: 4.1.2 and 4.1.3 overlap with our document and could go to clause 5. There is potential to merge.

Orange: remove the e.g. in the first bullet point. Remove "identifier" in the second bullet. Ericsson replied that it was implementation specific, it would become more flexible. It was agreed to add proprietary algorithms.

Vodafone: remove the last two sentences of 4.2.1.

**Decision:** The document was **revised to S3-194664**.

**S3-194664 Security Parameter Storage**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: Ericsson*

(Replaces S3-194292)

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

**S3-194385 Updated TR33.845 - includes docs agreed at SA3#95 Adhoc**

*Type: draft TR For: Agreement  
 33.845 v0.1.0  
 Source: Vodafone España SA*

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

**S3-194411 UDR study - title correction**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

It was clarified that the WID title was reworded before being sent to SA, although the spec title wasn’t aligned yet.

**Decision:** The document was **revised to S3-194669**.

**S3-194669 UDR study - title correction**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194411)

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

**S3-194412 UDR study - intro**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-194670**.

**S3-194670 UDR study - intro**

*Type: pCR For: Approval  
 33.845 v0.1.0  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-194412)

**Discussion:**

First paragraph and first sentence of last paragraph are gone as requested by Orange.

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

**S3-194663 Draft TR 33.845**

*Type: draft TR For: Approval  
 33.845 v0.2.0  
 Source: Vodafone*

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

### 8.15 Other study areas

### 8.16 New study item proposals

**S3-193977 SID on privacy enhancement of 3GPP access and non-3GPP access in EPS**

*Type: SID new For: Approval  
 Source: Apple*

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

**S3-194029 SID on privacy enhancement of 3GPP access and non-3GPP access in EPS**

*Type: SID new For: Approval  
 Source: Apple, Google, AT&T, Verizon UK Ltd, Accuris Networks, Charter Communications, Cablelabs, ARTICLE19, Sprint, Broadcom, Comcast*

**Discussion:**

China Mobile objected to this Study Item. Apple clarified that this was a study and that there would be no impact on existing solutions.

Qualcomm didn't support it either: The phase 1 study already concluded that there was no further work necessary. No need to reopen this.

Qualcomm, Nokia, Huawei, ZTE and Futurewei objected to this study.

Interdigital, Article19 also supported the study apart from the source companies.

Apple didn't see the point of objecting to a study and declared that there was no concrete reason for this.

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

**S3-194078 New SID on the security of the system enablers for devices having multiple Universal Subscriber Identity Modules (USIM)**

*Type: SID new For: (not specified)  
 Source: Intel Corporation (UK) Ltd*

**Decision:** The document was **revised to S3-194471**.

**S3-194471 New SID on the security of the system enablers for devices having multiple Universal Subscriber Identity Modules (USIM)**

*Type: SID new For: -  
 Source: Intel Corporation (UK) Ltd*

(Replaces S3-194078)

**Discussion:**

ORANGE: objectives are not clear. SA2 has just started and it's not clear either what SA3 has to do. Better to wait for SA2 to see if they have any specific security issues that we need to address with a study. Qualcomm supported this.

Thales: SA2 SID has two USIMs (5GS and EPS) but the scope of the SID in SA3 is different.. Intel replied that this was aligned with the scenarios described in SA1.

Ericsson: let us be careful as SA2 might advance some security work if we wait for too long.

Alex (BT): SA plenary has prohibited the multi-operator scenario.

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

**S3-194091 Discussion on security of 5MBS enhancement**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

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

**S3-194092 5MBS\_Sec\_SID\_SA3**

*Type: SID new For: Approval  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm: we support this but it is too early. Bring it back in February. Juniper supported this.

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

**S3-194137 New SID: Study on Security Aspects of Enhancement of Support for Edge Computing in 5GC**

*Type: SID new For: (not specified)  
 Source: China Unicom*

**Discussion:**

Huawei: based on the SA6 study.

Qualcomm: too early based on SA2's progress. ORANGE supported this.

BT: SA is currently working on the Release 17 prioritization and it could impact on this topic significantly.

AT&T supported approving this study item given the current work in SA6 as they could benefit from the work in here.

Qualcomm preferred to discuss this in February next year given that this was Release 17 work.

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

**S3-194181 New SID: Study on Security Aspects of Enhancement of Support for Edge Computing in 5GC**

*Type: SID new For: Approval  
 Source: Huawei, Hisilicon*

**Discussion:**

Huawei: based on the SA2 study.

AT&T: SA2 and SA6 have separate architectures so we want to support a split of study items.

CableLabs supported initiating the work now.

Telecom Italia: puzzled with having two studies with the same title. SA3 should have a single SID about this topic.

Huawei wondered who supported having to split the study into two. The Chair commented that part of the reason was to have two rapporteurs, practice that had been deprecated in SA. This was a possible solution for that.

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

**S3-194140 Discussion about a new study on 5G Prose security**

*Type: discussion For: Decision  
 Source: CATT*

**Discussion:**

CATT added that SA2 had planned to finish in June and that SA3 should consider that.

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

**S3-194218 Discussion on new SID for enhanced security to support new Non Public Network evolvement**

*Type: discussion For: Endorsement  
 Source: Ericsson*

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

**S3-194219 New SID: Study on enhanced security support for Non-Public Networks**

*Type: SID new For: Agreement  
 Source: Ericsson*

**Discussion:**

ORANGE: this is very early work in SA2. Everything is open and it is not time to start the work in SA3 yet.

Ericsson: there are several agreements from which we can start the work. There is a risk that they will do some security work if we don’t start soon.

ORANGE: this will lead to overlapping key issues being worked in both SA2 and SA3, and I want to avoid that.

Nokia: it is too early to start the work. SA3 should continue the work in Vertical LAN and not compete with eNPN.

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

**S3-194227 Necessity discussion for security study of eNA phase 2**

*Type: discussion For: Discussion  
 Source: China Mobile*

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

**S3-194415 Discussion of New Study - eNPN Vertical\_LAN\_SEC**

*Type: discussion For: Endorsement  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

Nokia asked if Vertical LAN should continue as it is, with eNPN topics. Huawei preferred to split the topic as in SA2. Ericsson shared the same view.

ORANGE commented that objectives should not be key issues in SA2 so as not to have the same discussions as in SA2.

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

**S3-194416 Enhanced NPN Security for Vertical and LAN Services.doc**

*Type: SID new For: Agreement  
 Source: Nokia, Nokia Shanghai Bell*

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

## 9 Work Plan and Rapporteur Input

### 9.1 Review of work plan

**S3-193903 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

**S3-193906 Work Plan input from Rapporteurs**

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

**Decision:** The document was **revised to S3-194699**.

**S3-194699 Work Plan input from Rapporteurs**

*Type: other For: -  
 Source: MCC*

(Replaces S3-193906)

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

## 10 Future Meeting Dates and Venues

**S3-193905 SA3 meeting calendar**

*Type: other For: (not specified)  
 Source: WG Chair*

**Discussion:**

Anja (Nokia) didn’t like to have SA3#100Bis. The Chair commented that the workload didn't seem to decrease and that the meeting could always be cancelled if not needed.

Bath (UK) confirmed for SA3#100.

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

## 11 Any Other Business

Elections for two vice Chairmen were held during the meeting.

For the first election, Samsung stepped down to go for the second election and leave both China Mobile and Vodafone fight for the first vice chair position.

Results:

Min Peng 111 votes 64,535%

Tim Evans 61 votes 35,465%

1 Abstain

number on voting list: 197

number of ballot papers issued for this ballot 173

Vodafone decided to step down in the first election and Min Peng was elected for vice chair. Min Peng had some words to thank the delegates and promised to host some kind of social event in the next meeting.

Election for the second vice chair results:

number on voting list: 197

number of ballot papers issued for this ballot : 182

Tim Evans 43 votes 23,757%

Rajadurai Rajavelsamy 138 votes 76,243%

1 Abstain

Radajurai Rajavelsamy was declared as a winner and became the second vice chair.

Orange, Thales, Telecom Italia argued about the convenience of breakout sessions, as it was hard to follow the discussions for single delegate companies.

This was the last meeting of Florence Driscoll (NCSC). She was awarded with a few gifts and with a thunderous applause for her hard work during her time in SA3.

Email approval dates:

16.00 CET all

25th November available

27th November comments

28th november final version

29th November approval announcement

Orange wanted to discuss the use of parallel breakout sessions. It was difficult for Todor to follow and only had conclusions to work on. Thales commented that most of the outputs of the breakout sessions were eventually noted since there was no time to work on them. The Chair commented that the large number of documents didn’t allow good alternatives to parallel sessions. Offline discussions between meetings, conference calls, etc would be strongly encouraged in this situation. Noamen also mentioned that this was the case with other WGs with similar or larger workload.

Ericsson thanked warmly Alf for chairing the parallel sessions.

Apple: breakout sessions are useful to gather feedback.

Anja (Nokia): less meetings and more time between meetings.

Mauro (TIM): parallel sessions create more contributions. Set priorities instead of trying to treat it all.

Orange: have an earlier deadline to have more time to read contributions.

Noamen: we tried prioritization before, and the not treated documents come back and pile up.

Mauro (TIM): limit the agenda so as not to allow more contributions.

Noamen (Ericsson): we had an enormous amount of work items and studies in release 16. Maybe it would be better to avoid this in release 17.

The Chair insisted that he was open to receive feedback on how to handle the workload anytime, and encouraged delegates to contact him any time to discuss the issue and provide with the ideas.

370 contributions are manageable. If we can have these, we can have a meeting where everything is properly treated.

Jean (T-Mobile): reflector discussion on this topic. Better not limit the contributions to 370 or we will have poor quality documents.

Alf (NTT-Docomo): encourage rapporteurs to schedule conference calls.

Orange: the solution would be a combination of these ideas. Even breakout sessions work if nobody objects to have them (e.g. mission critical has been working like this for years).

## 12 Closing of the meeting

The Chair thanked NAF, Mirko, the outgoing vice chairs and the delegates for the hard stressing week.

Tim (Vodafone) wanted to point out the significant amount of work performed by the former vice chairs Adrian and Alf.

After this, the meeting was closed.

## Annex A: List of contribution documents

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document | Title | Source | Decision | Replaces | Replaced by |
| * S3-193900 | * Agenda | * WG Chairman | * revised |  | * S3-194442 |
| * S3-193901 | * Report from SA3#96 | * MCC | * approved |  |  |
| * S3-193902 | * Report from SA3#96Ad-Hoc | * MCC | * approved |  |  |
| * S3-193903 | * SA3 Work Plan | * MCC | * noted |  |  |
| * S3-193904 | * Report from last SA meeting | * WG Chairman | * noted |  |  |
| * S3-193905 | * SA3 meeting calendar | * WG Chair | * noted |  |  |
| * S3-193906 | * Work Plan input from Rapporteurs | * MCC | * revised |  | * S3-194699 |
| * S3-193907 | * Alignment with TR 33.926 | * Futurewei Technologies | * merged |  | * S3-194477 |
| * S3-193908 | * Reference Correction | * Futurewei Technologies | * merged |  | * S3-194477 |
| * S3-193909 | * Adding missing abbreviations | * Futurewei Technologies | * agreed |  | * - |
| * S3-193910 | * TCG progress - report from TCG rapporteur | * InterDigital Communications | * noted |  |  |
| * S3-193911 | * TR 33.813 - update for the evaluation for solution #11 | * InterDigital Communications | * revised |  | * S3-194546 |
| * S3-193912 | * TR 33.819 – update for the evaluation of Hash based solution for CAG ID privacy | * InterDigital Communications | * noted |  |  |
| * S3-193913 | * New WID on Security Aspects of PARLOS | * SPRINT Corporation | * revised |  | * S3-194525 |
| * S3-193914 | * [MCXSec] 33180 R16 Missing Abbreviations (Mirror) | * Airbus | * agreed |  | * - |
| * S3-193915 | * [MCXSec] 33180 R16 Reference Addition (Mirror) | * Airbus | * agreed |  |  |
| * S3-193916 | * [MCXSec] 33180 R16 Correction concerning IdM client (Mirror) | * Airbus | * agreed |  |  |
| * S3-193917 | * [eMCSec] 33180 R15 Missing Abbreviations (Mirror) | * Airbus | * agreed |  |  |
| * S3-193918 | * [eMCSec] 33180 R15 Reference Addition (Mirror) | * Airbus | * agreed |  |  |
| * S3-193919 | * [eMCSec] 33180 R15 Correction concerning IdM client (Mirror) | * Airbus | * agreed |  |  |
| * S3-193920 | * [MCSec] 33180 R14 Missing Abbreviations | * Airbus | * agreed |  |  |
| * S3-193921 | * [MCSec] 33180 R14 Reference Addition (Mirror) | * Airbus | * agreed |  |  |
| * S3-193922 | * [MCSec] 33180 R14 Correction concerning IdM client (Mirror) | * Airbus | * agreed |  |  |
| * S3-193923 | * [MCPTT] 33179 R13 Missing Abbreviations | * Airbus | * agreed |  |  |
| * S3-193924 | * [MCPTT] 33179 R13 Reference Addition | * Airbus | * agreed |  |  |
| * S3-193925 | * [MCPTT] 33179 R13 Correction concerning IdM client | * Airbus | * agreed |  |  |
| * S3-193926 | * LS on IANA assigned values for mission critical | * C1-195042 | * replied to |  |  |
| * S3-193927 | * Reply LS on NAS Aspects of Mobile-terminated Early Data Transmission | * C1-195111 | * noted |  |  |
| * S3-193928 | * Reply LS on Mobile-terminated Early Data Transmission | * R2-1911603 | * noted |  |  |
| * S3-193929 | * LS on network slice-specific authentication and authorization | * C1-196903 | * noted |  |  |
| * S3-193930 | * LS on how the IWF obtains key material for interworking group and private communications | * C1-196979 | * noted |  |  |
| * S3-193931 | * LS on Clarification on the requirement for steering of roaming | * C1-197001 | * noted |  |  |
| * S3-193932 | * LS on O-RAN Alliance & 3GPP Coordination on O-RAN Alliance Outputs | * O-RAN Alliance | * noted |  |  |
| * S3-193933 | * Reply LS to “O-RAN Alliance & 3GPP Coordination on O-RAN Alliance Outputs” | * SP-190947 | * noted |  |  |
| * S3-193934 | * LS on AS key derivation for conditional handover | * R2-1911565 | * replied to |  |  |
| * S3-193935 | * LS on impact on UTRAN of 5G SRVCC | * R2-1911753 | * noted |  |  |
| * S3-193936 | * Reply LS on bulk authentication issue for IoT devices | * R2-1911790 | * noted |  |  |
| * S3-193937 | * LS on misalignment in Counter Check Procedure | * R2-1911837 | * noted |  |  |
| * S3-193938 | * Reply LS on Handling of UE radio network capabilities in 4G and 5G | * R2-1911850 | * replied to |  |  |
| * S3-193939 | * LS on PC5-S Signaling and PC5-RRC connection for NR sidelink communication | * R2-1914151 | * noted |  |  |
| * S3-193940 | * LS to SA3 on False Base Station Detection | * R3-196256 | * noted |  |  |
| * S3-193941 | * Reply LS to SA3 on FBS detection | * R2-1914224 | * postponed |  |  |
| * S3-193942 | * LS on security for multi-CU-UP connectivity | * R3-194784 | * replied to |  |  |
| * S3-193943 | * Reply LS on eSBA NF Set | * S2-1910148 | * noted |  |  |
| * S3-193944 | * Reply LS on LS on the IAB-indication to core network | * S2-1910281 | * noted |  |  |
| * S3-193945 | * Reply LS on AUSF role in slice specific authentication | * S2-1910668 | * postponed |  |  |
| * S3-193946 | * LS Response Reply LS on support of non-3GPP only UE and support for PEI in IMEI format | * S2-1910679 | * noted |  |  |
| * S3-193947 | * LS Response on Security Aspects of AMF Re-allocation Procedure | * S2-1910724 | * noted |  |  |
| * S3-193948 | * Reply LS on RRC Connection Reestablishment for CP for NB-IoT connected to 5GC | * S2-1910789 | * replied to |  |  |
| * S3-193949 | * Reply LS on UP gateway function on the N9 interface | * S2-1910808 | * replied to |  |  |
| * S3-193950 | * 256 bit radio interface algorithm performance | * ETSI SAGE | * replied to |  |  |
| * S3-193951 | * LS on Enhancing Location Information Reporting with Dual Connectivity | * S3i190671 | * noted |  |  |
| * S3-193952 | * LS on SG17 new work item X.sles “Security measures for location enabled smart office services” | * ITU-T SG17 | * noted |  |  |
| * S3-193953 | * LS on SG17 new work item X.nsom-sec “Security requirements and architecture for network slice orchestration and management” | * ITU-T SG17 | * noted |  |  |
| * S3-193954 | * LS on status of draft Recommendation ITU-T Q.SR-Trust “Signalling requirements and architecture for interconnection between trustable network entities” | * ITU-T SG11 | * noted |  |  |
| * S3-193955 | * LS on SG11 activities related to improvement of the SS7 security including for digital financial services | * SP-190586 | * noted |  |  |
| * S3-193956 | * LS on SUCI computation from an NSI | * CP-192262 | * replied to |  |  |
| * S3-193957 | * N9HR Regulatory Obligations | * S3i190548 | * noted |  |  |
| * S3-193958 | * LS on security consideration of performance measurement function protocol | * C1-196940 | * postponed |  |  |
| * S3-193959 | * TR 33.836 – update of evaluation for the solution #2 | * InterDigital Communications | * revised |  | * S3-194620 |
| * S3-193960 | * 33.836 – update of evaluation for the Solution #1 | * InterDigital Communications | * revised |  | * S3-194616 |
| * S3-193961 | * TR 33.836 – update of evaluation for the solution #4 | * InterDigital Communications | * approved |  | * - |
| * S3-193962 | * TR 33.836 - proposed conclusion for KI#1 | * InterDigital Communications | * merged |  | * S3-194618 |
| * S3-193963 | * TR 33.836 - Proposed conclusion for KI#2 | * InterDigital Communications | * merged |  | * S3-194650 |
| * S3-193964 | * TR 33.813 - update for solution #11 | * InterDigital Communications | * approved |  |  |
| * S3-193965 | * Draft for ‘proposed structure for network slice security procedures’ | * InterDigital Communications | * merged |  | * S3-194536 |
| * S3-193966 | * draft Reply LS\_on\_CHO key derivation | * Apple | * revised |  | * S3-194447 |
| * S3-193967 | * Discussion on Consecutive CHO key derivation | * Apple | * withdrawn |  |  |
| * S3-193968 | * 33401-CR on CHO key derivation | * Apple | * revised |  | * S3-194602 |
| * S3-193969 | * 33501-CR on CHO key derivation | * Apple | * revised |  | * S3-194448 |
| * S3-193970 | * Discussion on PMF Protocol Security | * Apple | * noted |  |  |
| * S3-193971 | * draft reply LS on security consideration of PMF | * Apple | * noted |  |  |
| * S3-193972 | * UP IP-update for solution#9 | * Apple | * revised |  | * S3-194698 |
| * S3-193973 | * AUTH\_Enh-update for solution#9 | * Apple | * withdrawn |  |  |
| * S3-193974 | * AUTH\_Enh-Evaluation for solution#2.4 | * Apple | * revised |  | * S3-194677 |
| * S3-193975 | * 5GFBS-conclusion of key issue#2 | * Apple | * noted |  |  |
| * S3-193976 | * 5GFBS-Update for solution#7 | * Apple | * withdrawn |  |  |
| * S3-193977 | * SID on privacy enhancement of 3GPP access and non-3GPP access in EPS | * Apple | * withdrawn |  |  |
| * S3-193978 | * Issue of re-authentication when AMF re-allocation via NAS reroute | * vivo, Apple | * noted |  |  |
| * S3-193979 | * New WID on eV2X security | * LG Electronics Inc. | * revised |  | * S3-194468 |
| * S3-193980 | * Conclusion for Key issue 10 | * LG Electronics Inc. | * merged |  | * S3-194657 |
| * S3-193981 | * Conclusion for Key issue 9 | * LG Electronics Inc. | * noted |  | * - |
| * S3-193982 | * Skeleton for TS on eV2X | * LG Electronics Inc. | * revised |  | * S3-194526 |
| * S3-193983 | * Update to Key Issue #6 | * KPN, China Mobile | * withdrawn |  |  |
| * S3-193984 | * Update to Key Issue #6 | * KPN, China Mobile | * approved |  |  |
| * S3-193985 | * End-to-end security | * KPN, China Mobile | * noted |  |  |
| * S3-193986 | * Authentication subscription data | * KPN, Nokia | * revised |  | * S3-194660 |
| * S3-193987 | * Introduction of the Inter PLMN UP security function in the architecture | * Deutsche Telekom AG | * noted |  |  |
| * S3-193988 | * LTKUP: editorial corrections to solution 5 in TR 33.935 | * THALES | * approved |  |  |
| * S3-193989 | * Reply LS on UP gateway function on the N9 interface | * Juniper Networks | * revised |  | * S3-194452 |
| * S3-193990 | * Draft LS on PC5 unicast and groupcast security protection | * InterDigital Communications | * revised |  | * S3-194658 |
| * S3-193991 | * KI 14 Potential Security Requirement | * NIST, ATT, Sprint Corporation, CableLabs, Deutsche Telekom AG, Cisco | * revised |  | * S3-194490 |
| * S3-193992 | * New Solution for KI #14 | * NIST, ATT, Sprint, CableLabs, Deutsche Telekom AG, Cisco | * revised |  | * S3-194492 |
| * S3-193993 | * [33.180] R14 - Fix bad reference | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-193994 | * [33.180] R15 Fix bad reference (mirror) | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-193995 | * [33.180] R16 Fix bad reference (mirror) | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-193996 | * [33.180] R16 - Consistent use of off-network | * Motorola Solutions UK Ltd. | * revised |  | * S3-194499 |
| * S3-193997 | * [33.180] R16 KM client to KMS security | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-193998 | * [33.180] R16 - TrK ID and InK ID | * Motorola Solutions UK Ltd. | * revised |  | * S3-194500 |
| * S3-193999 | * [33.180] R16 - InterSD KM record | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-194000 | * [33.180] R16 ETSI Plugtest clarifications | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-194001 | * LS to CT1 on 3rd ETSI MCX Remote Plugtest | * Motorola Solutions UK Ltd. | * revised |  | * S3-194501 |
| * S3-194002 | * DTR 33848 KI1 – clause 5\_2\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194568 |
| * S3-194003 | * DTR 33848 KI2 – clause 5\_3\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194569 |
| * S3-194004 | * DTR 33848 KI3 – clause 5\_4\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194570 |
| * S3-194005 | * DTR 33848 KI4 – clause 5\_5\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194571 |
| * S3-194006 | * DTR 33848 KI5 – clause 5\_6\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194572 |
| * S3-194007 | * DTR 33848 KI6 – clause 5\_7\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194573 |
| * S3-194008 | * DTR 33848 KI7 – clause 5\_8\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194574 |
| * S3-194009 | * DTR 33848 KI8 – clause 5\_9\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194575 |
| * S3-194010 | * DTR 33848 KI9 – clause 5\_10\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194576 |
| * S3-194011 | * DTR 33848 KI11 – clause 5\_12\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194578 |
| * S3-194012 | * DTR 33848 KI12 – clause 5\_13\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194579 |
| * S3-194013 | * DTR 33848 KI13 – clause 5\_14\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194580 |
| * S3-194014 | * DTR 33848 KI14 – clause 5\_15\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194581 |
| * S3-194015 | * DTR 33848 KI15 – clause 5\_16\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194584 |
| * S3-194016 | * DTR 33848 KI16 – clause 5\_17\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194585 |
| * S3-194017 | * DTR 33848 KI17 – clause 5\_18\_3 | * T-Mobile USA Inc. | * noted |  |  |
| * S3-194018 | * DTR 33848 KI18 – clause 5\_19\_3 | * T-Mobile USA Inc. | * noted |  |  |
| * S3-194019 | * DTR 33848 KI19 – clauses 5\_20\_2 and 3 | * T-Mobile USA Inc. | * merged |  | * S3-194588 |
| * S3-194020 | * DTR 33848 KI20 – clause 5\_21\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194589 |
| * S3-194021 | * DTR 33848 KI21 – clause 5\_22\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194590 |
| * S3-194022 | * DTR 33848 KI22 – clause 5\_23\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194591 |
| * S3-194023 | * DTR 33848 KI23 – clause 5\_24\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194592 |
| * S3-194024 | * DTR 33848 KI24 – clause 5\_25\_3 | * T-Mobile USA Inc. | * revised |  | * S3-194593 |
| * S3-194025 | * Discussion on CHO key derivation | * Apple | * noted |  |  |
| * S3-194026 | * AUTH\_Enh-update for solution#4.1 | * Apple | * revised |  | * S3-194675 |
| * S3-194027 | * Horizontal derivation when AMF re-allocation | * Apple, vivo | * merged |  | * S3-194691 |
| * S3-194028 | * 5GFBS-Update for solution#11 | * Apple | * revised |  | * S3-194685 |
| * S3-194029 | * SID on privacy enhancement of 3GPP access and non-3GPP access in EPS | * Apple, Google, AT&T, Verizon UK Ltd, Accuris Networks, Charter Communications, Cablelabs, ARTICLE19, Sprint, Broadcom, Comcast | * noted |  | * - |
| * S3-194030 | * Removing ENs in annex X in the living document for 5WWC | * CableLabs, Charter Communications, Rogers Communications, Nokia, Nokia Shanghai Bell | * revised |  | * S3-194400 |
| * S3-194031 | * CR-R16-Horizontal derivation when AMF re-allocation | * Apple, vivo | * merged |  | * S3-194692 |
| * S3-194032 | * Update solution 4 to clarify MIB/SIB Hash report | * Huawei, HiSilicon | * revised |  | * S3-194688 |
| * S3-194033 | * Reply LS to RAN2 on FBS detection | * Huawei, HiSilicon | * revised |  | * S3-194687 |
| * S3-194034 | * Preventing UE from Connecting to FBSs | * Huawei, HiSilicon | * noted |  |  |
| * S3-194035 | * Preventing UE from reselecting to FBS | * Huawei, HiSilicon | * noted |  |  |
| * S3-194036 | * Handover UE under MitM FBS attacks | * Huawei, HiSilicon | * noted |  |  |
| * S3-194037 | * Conclusion for Key Issue #3 | * Huawei, HiSilicon | * noted |  |  |
| * S3-194038 | * Conclusion for Key Issue #4 | * Huawei, HiSilicon | * noted |  |  |
| * S3-194039 | * Conclusion for Key Issue #8 | * Huawei, HiSilicon | * approved |  |  |
| * S3-194040 | * Conclusion for Key Issue #9 | * Huawei, HiSilicon | * noted |  |  |
| * S3-194041 | * New Solution for secure identifier conversion in groupcast | * Huawei, HiSilicon | * revised |  | * S3-194653 |
| * S3-194042 | * New solution to KI#9 | * Huawei, HiSilicon | * revised |  | * S3-194697 |
| * S3-194043 | * Addition of security threats and security requirements to KI#9 | * Huawei, HiSilicon | * withdrawn |  |  |
| * S3-194044 | * Conclusions to KI #6 | * Huawei, HiSilicon | * approved |  |  |
| * S3-194045 | * Add content to Clause X.X.2 of eNS | * Huawei, HiSilicon | * revised |  | * S3-194536 |
| * S3-194046 | * Amendment to Clause X.X.3 of Slice specific authentication procedure | * Huawei, HiSilicon | * merged |  | * S3-194537 |
| * S3-194047 | * Note for the User ID privacy protection in Clause X.X.3 | * Huawei, HiSilicon | * revised |  | * S3-194538 |
| * S3-194048 | * Discussion on Authentication method negotiation | * Huawei, HiSilicon | * noted |  |  |
| * S3-194049 | * Authentication method negotiation | * Huawei, HiSilicon | * noted |  |  |
| * S3-194050 | * Conclusion to KI#3 | * Huawei, HiSilicon | * noted |  |  |
| * S3-194051 | * Solution 8 update | * Huawei, HiSilicon | * revised |  | * S3-194542 |
| * S3-194052 | * Overal evaluation to solutions addressing KI#6 | * Huawei, HiSilicon | * noted |  |  |
| * S3-194053 | * Conclusions to KI #6 | * Huawei, HiSilicon | * noted |  |  |
| * S3-194054 | * Discussion on LS from SA2 on AUSF role | * Huawei, HiSilicon | * noted |  |  |
| * S3-194055 | * Discussion paper on LS (R2-1911565) on AS key derivation for Conditional Handovertional | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194056 | * Discussion on LS R3-194784 on Disaggregated CU-UPs in different security domains | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194057 | * Discussion paper on PMF protocol security S3-193680 | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194058 | * Proposed text for clause x.2 of living CR for eNS | * Nokia, Nokia Shanghai Bell | * merged |  | * S3-194536 |
| * S3-194059 | * Key Issue#7 on revocation of rejected NSSAI | * Nokia, Nokia Shnghai Bell, Lenovo, Motorola Mobility | * noted |  |  |
| * S3-194060 | * Solution for KI#7 on revocation of rejected NSSAI | * Nokia, Nokia Shanghai Bell, Lenovo, Motorola Mobility | * noted |  |  |
| * S3-194061 | * URLLC living CR: clarifications related to security policy | * Nokia, Nokia Shanghai Bell | * noted |  | * - |
| * S3-194062 | * Way forward on key issue 2 in TR 33.809 | * CableLabs | * noted |  |  |
| * S3-194063 | * Top research papers published in 2019 on 4G and 5G security | * CableLabs | * noted |  |  |
| * S3-194064 | * LS on security consideration of performance measurement function protocol | * ZTE Corporation | * noted |  |  |
| * S3-194065 | * Considerations on security handling of registration with AMF re-allocation | * ZTE Corporation | * noted |  |  |
| * S3-194066 | * Security handling in registration with AMF re-allocation | * ZTE Corporation | * merged |  | * S3-194692 |
| * S3-194067 | * Editorial correction in TS 33.519 | * ZTE Corporation | * merged |  | * S3-194479 |
| * S3-194068 | * Update of solution #12 in TR 33.813 | * ZTE Corporation | * revised |  | * S3-194547 |
| * S3-194069 | * Update of key issue #3.2 in TR 33.846 | * ZTE Corporation | * noted |  |  |
| * S3-194070 | * Solution of mitigating the SUPI guessing attacks | * ZTE Corporation | * noted |  |  |
| * S3-194071 | * Update of solution #2.1 in TR 33.846 | * ZTE Corporation | * approved |  |  |
| * S3-194072 | * Key issue on security attack caused by IAB-node with removable UICC card | * ZTE Corporation | * noted |  |  |
| * S3-194073 | * Definition of IAB-MT | * ZTE Corporation | * noted |  |  |
| * S3-194074 | * Add a note to key issue #9 in TR 33.836 | * ZTE Corporation | * noted |  |  |
| * S3-194075 | * Reply LS on Handling of UE radio network capabilities in 4G and 5G | * Intel Corporation (UK) Ltd | * revised |  | * S3-194488 |
| * S3-194076 | * Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility | * Intel Corporation (UK) Ltd | * revised |  | * S3-194458 |
| * S3-194077 | * Conclusion for Key issue 15 | * Intel Corporation (UK) Ltd | * noted |  |  |
| * S3-194078 | * New SID on the security of the system enablers for devices having multiple Universal Subscriber Identity Modules (USIM) | * Intel Corporation (UK) Ltd | * revised |  | * S3-194471 |
| * S3-194079 | * Security solution for UE Capability Transfer for UE with no AS security. | * Intel Corporation (UK) Ltd | * revised |  | * S3-194494 |
| * S3-194080 | * Updates to Key issue Protection of UE capability transfer for UEs without AS security | * Intel Corporation (UK) Ltd | * revised |  | * S3-194491 |
| * S3-194081 | * Updates to solution 9 | * Intel Corporation (UK) Ltd | * revised |  | * S3-194619 |
| * S3-194082 | * Address the EN in Solution #17 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194083 | * Conclusion on protection of time synchronization | * Huawei, Hisilicon | * noted |  |  |
| * S3-194084 | * Address the EN on the reference in key issue 4.1 | * Huawei, Hisilicon | * merged |  | * S3-194675 |
| * S3-194085 | * Add solution details and evaluation to solutioin 4.1 | * Huawei, Hisilicon | * revised |  | * S3-194679 |
| * S3-194086 | * Address the EN on the NAS procedure impact in Solution#2.4 | * Huawei, Hisilicon | * postponed |  |  |
| * S3-194087 | * Add the threat and requirement in KI#15 | * Huawei, Hisilicon | * merged |  | * S3-194491 |
| * S3-194088 | * Protection of UE capability transfer for CP optimization only CIoT UE | * Huawei, Hisilicon | * revised |  | * S3-194493 |
| * S3-194089 | * Security attack caused by an unauthorized IAB device | * Huawei, Hisilicon | * noted |  |  |
| * S3-194090 | * resolving editor's note on the move of access point | * Huawei, Hisilicon | * merged |  | * S3-194466 |
| * S3-194091 | * Discussion on security of 5MBS enhancement | * Huawei, Hisilicon | * noted |  |  |
| * S3-194092 | * 5MBS\_Sec\_SID\_SA3 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194093 | * DraftCR\_TSC protection | * Huawei, Hisilicon | * merged |  | * S3-194553 |
| * S3-194094 | * Adding evaluation to solution #10 in TR 33.813 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194095 | * Providing some updates to Solution #15 in TR 33.836 | * Huawei, Hisilicon | * approved |  |  |
| * S3-194096 | * Evaluation of Solution #15 in TR 33.836 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194097 | * Providing analysis to Solution #13 in TR 33.836 | * Huawei, Hisilicon | * revised |  | * S3-194654 |
| * S3-194098 | * Discussion on Security for truncation of 5G-S-TMSI | * Huawei, Hisilicon | * noted |  |  |
| * S3-194099 | * Security Procedure for RRCConnectionRe-establishment Procedure for Control Plane Optimization for 5GS CIoT | * Huawei, Hisilicon | * merged |  | * S3-194484 |
| * S3-194100 | * Reply LS to SA2 on Security Issue on 5G-S-TMSI Truncation Procedure | * Huawei, Hisilicon | * noted |  |  |
| * S3-194101 | * CIoT Title Modifications to draft CR | * Huawei, Hisilicon | * approved |  |  |
| * S3-194102 | * Skeleton for Security handling in User Plane CIoT 5GS Optimization | * Huawei, Hisilicon | * approved |  |  |
| * S3-194103 | * General for Security handling in User Plane CIoT 5GS Optimization | * Huawei, Hisilicon | * revised |  | * S3-194485 |
| * S3-194104 | * Security handling in Connection Suspend Procedure for User Plane CIoT 5GS Optimization | * Huawei, Hisilicon | * revised |  | * S3-194486 |
| * S3-194105 | * Security handling in Connection Resume in CM-IDLE with Suspend to a new ng-eNB for User Plane CIoT 5GS Optimization | * Huawei, Hisilicon | * revised |  | * S3-194487 |
| * S3-194106 | * Security handling in Connection Resume in CM-IDLE with Suspend to the same ng-eNB for User Plane CIoT 5GS Optimization | * Huawei, Hisilicon | * approved |  |  |
| * S3-194107 | * Conclusion for RRC Resume Request Protection | * Huawei, Hisilicon | * noted |  |  |
| * S3-194108 | * Conclusion for Key Issue #2 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194109 | * Evaluation for solution #7 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194110 | * Address EN in solution 6 and solution 18 | * Huawei, Hisilicon | * revised |  | * S3-194689 |
| * S3-194111 | * Add Missing Procedure for Security Handling for RRCConnectionRe-establishment Procedure | * Huawei, Hisilicon | * agreed |  | * - |
| * S3-194112 | * Mirror for Adding Missing Procedure for Security Handling for RRCConnectionRe-establishment Procedure | * Huawei, Hisilicon | * agreed |  |  |
| * S3-194113 | * Editorial change for trusted non-3GPP access | * Huawei, Hisilicon | * revised |  | * S3-194532 |
| * S3-194114 | * Update content for trusted non-3GPP access | * Huawei, Hisilicon | * revised |  | * S3-194533 |
| * S3-194115 | * Corrections on N5CW connects 5GC via trusted non-3GPP access | * Huawei, Hisilicon | * approved |  | * - |
| * S3-194116 | * Using ERP for intra-TNAN mobility | * Huawei, Hisilicon | * noted |  |  |
| * S3-194117 | * Move Requirement of 5G-RG to clause 5 | * Huawei, Hisilicon | * revised |  | * S3-194609 |
| * S3-194118 | * Delete an assumption sentence | * Huawei, Hisilicon | * approved |  |  |
| * S3-194119 | * Add a new clause for N5CW privacy | * Huawei, Hisilicon | * approved |  |  |
| * S3-194120 | * UE activates UP IP over eUTRA to EPC | * Huawei, Hisilicon | * revised |  | * S3-194671 |
| * S3-194121 | * Update conclusion clause | * Huawei, Hisilicon | * approved |  |  |
| * S3-194122 | * Ensure the same setting for UP policy | * Huawei, Hisilicon | * merged |  | * S3-194470 |
| * S3-194123 | * Clarification on UP security policy preconfiguration | * Huawei, Hisilicon | * approved |  | * - |
| * S3-194124 | * Further clarification on UP activation status | * Huawei, Hisilicon | * noted |  | * - |
| * S3-194125 | * Clean up | * Huawei, Hisilicon | * revised |  | * S3-194469 |
| * S3-194126 | * Living doc for 5WWC | * Huawei, Hisilicon | * revised |  | * S3-194529 |
| * S3-194127 | * AKMA network functions | * Huawei, Hisilicon | * merged |  | * S3-194641 |
| * S3-194128 | * AKMA interface description | * Huawei, Hisilicon | * revised |  | * S3-194642 |
| * S3-194129 | * AKMA security principles and requirements | * Huawei, Hisilicon | * merged |  | * S3-194643 |
| * S3-194130 | * AKMA key management | * Huawei, Hisilicon | * revised |  | * S3-194644 |
| * S3-194131 | * Adding some evidence | * Huawei, Hisilicon | * agreed |  |  |
| * S3-194132 | * Modify the message names | * Huawei, Hisilicon | * agreed |  |  |
| * S3-194133 | * Fix the threat reference numbers for AMF | * Huawei, Hisilicon | * merged |  | * S3-194475 |
| * S3-194134 | * Amendment on 4.2.2.1.2 on AMF | * Huawei, Hisilicon | * withdrawn |  |  |
| * S3-194135 | * Fix the threat reference numbers for UPF | * Huawei, Hisilicon | * merged |  | * S3-194476 |
| * S3-194136 | * Corrections on clause 4.3 | * Huawei, Hisilicon | * revised |  | * S3-194561 |
| * S3-194137 | * New SID: Study on Security Aspects of Enhancement of Support for Edge Computing in 5GC | * China Unicom | * noted |  |  |
| * S3-194138 | * Discussion on Security of Multi-CU-UP connectivity | * CATT | * noted |  |  |
| * S3-194139 | * LS reply to RAN WG3 LS on security for multi-CU-UP connectivity | * CATT | * revised |  | * S3-194450 |
| * S3-194140 | * Discussion about a new study on 5G Prose security | * CATT | * noted |  |  |
| * S3-194141 | * Clarifying interfaces in clause 5.2.3.3.4 and clause 5.2.3.4.5 | * China Mobile | * revised |  | * S3-194563 |
| * S3-194142 | * Discussion on the Xn-Handover message | * CATT | * noted |  |  |
| * S3-194143 | * Conclusion for KI#7 | * Lenovo, Motorola Mobility | * noted |  |  |
| * S3-194144 | * Update of Solution#15 | * Lenovo, Motorola Mobility | * approved |  |  |
| * S3-194145 | * Adding security requirements for GVNP of type 1 | * China Mobile | * revised |  | * S3-194564 |
| * S3-194146 | * Removal of Editor’s Note and update of the Figure 6.Y.4-1 | * Lenovo, Motorola Mobility | * approved |  |  |
| * S3-194147 | * Adding security functional requirements deriving virtualisation and related test cases for GVNP of type 1 | * China Mobile | * noted |  | * - |
| * S3-194148 | * Update of solution#14 | * Lenovo, Motorola Mobility | * approved |  |  |
| * S3-194149 | * Solution#14 Evaluation | * Lenovo, Motorola Mobility | * revised |  | * S3-194651 |
| * S3-194150 | * Draft CR as a living baseline for 5GS LCS normative work | * CATT | * revised |  | * S3-194465 |
| * S3-194151 | * Revise the Evaluations for Solution 5 in TR 33.853 | * China Mobile | * noted |  | * - |
| * S3-194152 | * Discussion on the UP IP for 5G RAN connected 5GC | * China Mobile | * noted |  |  |
| * S3-194153 | * Draft CR for eLCS on access point security | * CATT | * merged |  | * S3-194466 |
| * S3-194154 | * Add the conclusion on the UP IP for 5G RAN connected to 5GC | * China Mobile International Ltd | * withdrawn |  |  |
| * S3-194155 | * Solution for destination L2 privacy | * Ericsson | * noted |  |  |
| * S3-194156 | * Add Abrreviations to TS 33.535 | * China Mobile, Nokia, Nokia Shanghai Bell | * approved |  |  |
| * S3-194157 | * Miscellaneous Editorial clarifications in 33.916 | * Huawei, Hisilicon | * agreed |  |  |
| * S3-194158 | * Miscellaneous Editorial clarifications in 33.926 | * Huawei, Hisilicon | * agreed |  |  |
| * S3-194159 | * Miscellaneous Editorial clarifications in 33.117 | * Huawei, Hisilicon | * agreed |  |  |
| * S3-194160 | * Update on AKMA reference model | * China Mobile, Nokia, Nokia Shanghai Bell | * approved |  |  |
| * S3-194161 | * Update of clause 4 | * Huawei, Hisilicon | * not pursued |  |  |
| * S3-194162 | * remove unspecified SDOs | * Huawei, Hisilicon | * revised |  | * S3-194562 |
| * S3-194163 | * Adding conclusion on KI #6.2 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194164 | * CAG ID privacy | * Huawei, Hisilicon | * noted |  |  |
| * S3-194165 | * New KI: Service access authorization for non-delegated subscribe-notify | * Huawei, Hisilicon | * revised |  | * S3-194510 |
| * S3-194166 | * eSBA: add conclusion on KI #5 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194167 | * eSBA: conclusion update on KI #22 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194168 | * eSBA: conclusion update on KI #29 | * Huawei, Hisilicon | * revised |  | * S3-194512 |
| * S3-194169 | * Conclusion on KI #4.1 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194170 | * Editoral changes on solution for AKMA change | * Huawei, Hisilicon | * revised |  | * S3-194638 |
| * S3-194171 | * Resolving the editor’s notes in the solution of AKMA change | * Huawei, Hisilicon | * noted |  |  |
| * S3-194172 | * AKMA: add conclusion on KI #17 | * Huawei, Hisilicon | * noted |  | * - |
| * S3-194173 | * Resolving the EN and adding the evaluation of solution #17 | * Huawei, Hisilicon | * revised |  | * S3-194647 |
| * S3-194174 | * eV2X: Conclusion on KI#2 | * Huawei, Hisilicon | * noted |  |  |
| * S3-194175 | * eV2X: Solution for the UP security activation policy handling in NR PC5 unicast | * Huawei, Hisilicon | * revised |  | * S3-194648 |
| * S3-194176 | * eV2X: Conclusion on one requirement of KI#2 | * Huawei, Hisilicon | * merged |  | * S3-194650 |
| * S3-194177 | * eV2X: conclusion on KI #10 | * Huawei, Hisilicon | * revised |  | * S3-194657 |
| * S3-194178 | * eV2X: Conclusion on KI#2 | * Huawei, Hisilicon | * withdrawn |  |  |
| * S3-194179 | * Clarification on aspects specific to the network product class UDM and AMF | * Huawei, Hisilicon | * revised |  | * S3-194419 |
| * S3-194180 | * New WID: Work Item on Security Assurance Specification for IMS | * Huawei, Hisilicon | * revised |  | * S3-194527 |
| * S3-194181 | * New SID: Study on Security Aspects of Enhancement of Support for Edge Computing in 5GC | * Huawei, Hisilicon | * noted |  |  |
| * S3-194182 | * New solution for authorization in the non-delegated "Subscribe-Notify" interaction scenarios | * Huawei, Hisilicon | * revised |  | * S3-194511 |
| * S3-194183 | * Update on solution#15 in TR 33.855 | * Huawei, Hisilicon | * revised |  | * S3-194425 |
| * S3-194184 | * Conclusion on authorization in the non-delegated Subscribe-Notify interaction scenarios | * Huawei, Hisilicon | * noted |  |  |
| * S3-194185 | * Conclusion on authorization in the delegated Subscribe-Notify interaction scenarios | * Huawei, Hisilicon | * noted |  |  |
| * S3-194186 | * Conclusion on service access authorization of a NF Set | * Huawei, Hisilicon | * revised |  | * S3-194508 |
| * S3-194187 | * Service access authorization of a NF Set | * Huawei, Hisilicon | * noted |  | * - |
| * S3-194188 | * Resolving the ENs of solution#2.5 in the TR 33.846 | * Huawei, Hisilicon | * revised |  | * S3-194678 |
| * S3-194189 | * Resolving the ENs in KI#3.1 | * Huawei, Hisilicon | * revised |  | * S3-194673 |
| * S3-194190 | * Resolving the ENs of solution#5 in the TR 33.809 | * Huawei, Hisilicon, Lenovo, Motorola Mobility | * revised |  | * S3-194690 |
| * S3-194191 | * Conclusion on mitigation against the authentication relay attack | * Huawei, Hisilicon, Lenovo, Motorola Mobility | * noted |  |  |
| * S3-194192 | * Evaluation on service access authorization of a NF Set in non-roaming scenario | * Huawei, Hisilicon | * revised |  | * S3-194506 |
| * S3-194193 | * Evaluation on service access authorization of a NF Set in roaming scenario | * Huawei, Hisilicon | * revised |  | * S3-194507 |
| * S3-194194 | * Security requirement on Key Issue #24: service access authorization of a NF Set | * Huawei, Hisilicon | * revised |  | * S3-194505 |
| * S3-194195 | * Solving registration failure in registration procedure with AMF reallocation | * Huawei, Hisilicon | * not pursued |  |  |
| * S3-194196 | * Clarification on AMF reallocation via direct NAS reroute for Rel-15 | * Huawei, Hisilicon | * not pursued |  |  |
| * S3-194197 | * Clarification on AMF reallocation via direct NAS reroute for Rel-16 | * Huawei, Hisilicon | * not pursued |  |  |
| * S3-194198 | * Clarification on primary authentication in direct NAS reroute for Rel-15 | * Huawei, Hisilicon | * revised |  | * S3-194691 |
| * S3-194199 | * Clarification on primary authentication in direct NAS reroute for Rel-16 | * Huawei, Hisilicon | * revised |  | * S3-194692 |
| * S3-194200 | * Add AAnF description into clause 4.2 | * China Mobile, Nokia, Nokia Shanghai Bell | * revised |  | * S3-194641 |
| * S3-194201 | * Add content to clause 4.4 | * China Mobile, Nokia, Nokia Shanghai Bell | * revised |  | * S3-194643 |
| * S3-194202 | * Updates to solution #7 - capability negotiation | * Ericsson | * revised |  | * S3-194667 |
| * S3-194203 | * Updates to solution #7 - network sharing | * Ericsson | * noted |  | * - |
| * S3-194204 | * Updates to solution #7 - signature schemes and length | * Ericsson | * revised |  | * S3-194683 |
| * S3-194205 | * [DRAFT] LS out to SA5 about SON poisoning | * Ericsson | * noted |  |  |
| * S3-194206 | * [DRAFT] Reply LS on false base station detection | * Ericsson | * merged |  | * S3-194687 |
| * S3-194207 | * Way forward - KI#3 False RBS detection | * Ericsson | * noted |  |  |
| * S3-194208 | * Updates to solution #17 - resolving Ens | * Ericsson | * revised |  | * S3-194668 |
| * S3-194209 | * Conclusion on end to end security | * China Mobile, KPN | * revised |  | * S3-194636 |
| * S3-194210 | * Add abbreviations and editorial changes to TR 33.835 | * China Mobile | * approved |  |  |
| * S3-194211 | * Conclusion on KI#6 | * Ericsson, Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194212 | * DraftCR – Proposed call flow for Network Slice Specific Authentication and Authorization | * Ericsson | * revised |  | * S3-194537 |
| * S3-194213 | * DraftCR - Proposed flow for Re-authentication and Re-authorization | * Ericsson | * revised |  | * S3-194539 |
| * S3-194214 | * DraftCR - Proposed flow for clarifying primary authentication steps | * Ericsson | * merged |  | * S3-194536 |
| * S3-194215 | * DraftCR – Proposing a new AUSF service to support NSSAA flow | * Ericsson | * revised |  | * S3-194540 |
| * S3-194216 | * Cover sheet TR 33.835 | * China Mobile International Ltd | * withdrawn |  |  |
| * S3-194217 | * Cover sheet TR 33.835 for approval | * China Mobile | * revised |  | * S3-194695 |
| * S3-194218 | * Discussion on new SID for enhanced security to support new Non Public Network evolvement | * Ericsson | * noted |  |  |
| * S3-194219 | * New SID: Study on enhanced security support for Non-Public Networks | * Ericsson | * noted |  |  |
| * S3-194220 | * New solution to preserve CAG-ID privacy | * Ericsson | * noted |  |  |
| * S3-194221 | * New conclusion to preserve CAG-ID privacy | * Ericsson | * noted |  |  |
| * S3-194222 | * New conclusion for handling UP security policy in a 5GLAN group | * Ericsson | * revised |  | * S3-194555 |
| * S3-194223 | * Update test cases for gNB SCAS | * Huawei, Hisilicon | * revised |  | * S3-194474 |
| * S3-194224 | * Fix some reference numbers | * Huawei, Hisilicon | * agreed |  |  |
| * S3-194225 | * Resolve EN about how to ensure the UP security policy to be the same | * Ericsson | * revised |  | * S3-194470 |
| * S3-194226 | * Resolve EN about MN being preconfigured with SN capability to perform UP IP | * Ericsson | * noted |  | * - |
| * S3-194227 | * Necessity discussion for security study of eNA phase 2 | * China Mobile | * noted |  |  |
| * S3-194228 | * Clause 6.X – Deriving AKMA key during UE registration | * Nokia, Nokia Shanghai Bell, China Mobile | * revised |  | * S3-194645 |
| * S3-194229 | * Clause 6.Y – Deriving AF key for a specific Application function | * Nokia, Nokia Shanghai Bell, China Mobile | * approved |  |  |
| * S3-194230 | * Add the conclusion on the UP IP for 5G RAN connected to 5GC | * China Mobile | * noted |  |  |
| * S3-194231 | * Add Definition of Execution Environment Interface in 33.818 | * Nokia, Nokia Shanghai Bell, China Mobile | * merged |  | * S3-194563 |
| * S3-194232 | * [DRAFT] LS on SECAM Accreditation for Virtualised Network Products (VNPs) | * Nokia, Nokia Shanghai Bell, China Mobile | * revised |  | * S3-194567 |
| * S3-194233 | * Proposed conclusion to KI#3 | * Ericsson | * approved |  |  |
| * S3-194234 | * Proposed revision of conclusion to KI#2 | * Ericsson | * approved |  |  |
| * S3-194235 | * Proposed conclusion to KI#1 | * Ericsson | * revised |  | * S3-194498 |
| * S3-194236 | * [Draft CR] RRC Connection Re-Establishment for the control plane for NB-IoT radio access connected to 5GC | * Ericsson | * revised |  | * S3-194484 |
| * S3-194237 | * [Draft CR] RRC Connection Resume and Suspend procedures for the user plane for NB-IoT radio access connected to 5GC | * Ericsson | * withdrawn |  |  |
| * S3-194238 | * KI#15 - new requirement for handling UEs without AS security | * Ericsson | * merged |  | * S3-194491 |
| * S3-194239 | * KI#15 - new solution for handling UEs without AS security | * Ericsson | * approved |  | * - |
| * S3-194240 | * Removal of three obsolete Editor’s Notes | * Ericsson | * approved |  |  |
| * S3-194241 | * DRAFT Reply LS on Handling of UE radio network capabilities in 4G and 5G | * Ericsson | * noted |  |  |
| * S3-194242 | * DraftCR – Living document for supporting 5G CIoT security | * Ericsson | * revised |  | * S3-194483 |
| * S3-194243 | * Security of RRC UE capability transfer procedure in EPS | * Ericsson | * not pursued |  |  |
| * S3-194244 | * RRC Connection Resume and Suspend procedures | * Ericsson | * agreed |  |  |
| * S3-194245 | * RRC Connection Resume and Suspend procedures | * Ericsson | * agreed |  |  |
| * S3-194246 | * Proposed conclusion to KI #14 | * Ericsson | * revised |  | * S3-194604 |
| * S3-194247 | * Key issue on Protection of long-term key during storage in UDR | * KPN, Nokia, Nokia Shanghai Bell | * revised |  | * S3-194661 |
| * S3-194248 | * pCR for eV2X TS | * Ericsson | * merged |  | * S3-194613 |
| * S3-194249 | * Key issue on Protection of long-term key during transfer out of UDR | * KPN, Nokia, Nokia Shanghai Bell | * revised |  | * S3-194662 |
| * S3-194250 | * Editorials and corrections to Security requirements for SeCoP | * Ericsson | * revised |  | * S3-194517 |
| * S3-194251 | * Editorials and corrections to Protection of N9 interface | * Ericsson | * approved |  |  |
| * S3-194252 | * Using Rel-15 token-based authorization in indirect communication scenarios | * Ericsson | * not pursued |  | * - |
| * S3-194253 | * Conclusion of Key Issue #28: Service access authorization in the delegated "Subscribe-Notify" scenarios | * Ericsson | * noted |  |  |
| * S3-194254 | * Conclusion for Key Issue #5 "NF-NF Authorization" | * Ericsson | * revised |  | * S3-194514 |
| * S3-194255 | * Update to conclusion on Key issue #23: NF to NF authentication and authorization in Indirect communication | * Ericsson | * noted |  | * - |
| * S3-194256 | * Security for roaming interfaces in indirect communication | * Ericsson | * revised |  | * S3-194519 |
| * S3-194257 | * Removal of Editor's Notes for Security of indirect communication in roaming scenarios | * Ericsson | * revised |  | * S3-194515 |
| * S3-194258 | * New Key issue on NF subtypes for authorization granularity | * Ericsson | * revised |  | * S3-194513 |
| * S3-194259 | * Update of Solution #32: OAuth 2.0 based resource level authorization of NF service consumers | * Ericsson | * noted |  |  |
| * S3-194260 | * Conclusion on NF subtypes for authorization granularity | * Ericsson | * noted |  |  |
| * S3-194261 | * Resource Level Authorization using Access Tokens | * Ericsson | * not pursued |  | * - |
| * S3-194262 | * Authorization using Access Tokens based on NF-Subtype | * Ericsson | * not pursued |  |  |
| * S3-194263 | * Certificate and CRL profile update | * Ericsson | * not pursued |  |  |
| * S3-194264 | * TLS Recommended Cipher Suites | * Ericsson | * not pursued |  |  |
| * S3-194265 | * Required TLS extenstions and algorithms | * Ericsson | * not pursued |  |  |
| * S3-194266 | * IKEv2 profile update 33.210 | * Ericsson | * not pursued |  |  |
| * S3-194267 | * IKEv2 profile update 33.310 | * Ericsson | * not pursued |  |  |
| * S3-194268 | * Using EAP-TLS with TLS 1.3 | * Ericsson | * not pursued |  |  |
| * S3-194269 | * New WID on 3GPP profiles for cryptographic algorithms and IETF protocols | * Ericsson | * revised |  | * S3-194528 |
| * S3-194270 | * Test cases referring to TS 33.117 | * Ericsson | * not pursued |  |  |
| * S3-194271 | * Resolving ENs in Draft CR as a living baseline for 5GS LCS normative work | * Ericsson | * revised |  | * S3-194466 |
| * S3-194272 | * Update of the key hierarchy | * Ericsson | * noted |  |  |
| * S3-194273 | * Conclusions on Key Management | * Ericsson | * revised |  | * S3-194637 |
| * S3-194274 | * [Draft CR] Security requirements for F1 interface | * Ericsson | * approved |  |  |
| * S3-194275 | * [Draft CR] Security requirements on the IAB node, IAB donor and 5GC supporting IAB architecture | * Ericsson | * revised |  | * S3-194595 |
| * S3-194276 | * [Draft CR] Security mechanisms for the F1 interface between the IAB-node (gNB-DU) and the IAB-donor-CU | * Ericsson | * noted |  |  |
| * S3-194277 | * [Draft CR] General introduction to IAB-node Integration Procedure | * Ericsson | * merged |  | * S3-194597 |
| * S3-194278 | * [Draft CR] Authentication of IAB nodes | * Ericsson | * merged |  | * S3-194598 |
| * S3-194279 | * [Draft CR] Authorization of IAB nodes | * Ericsson | * merged |  | * S3-194598 |
| * S3-194280 | * [Draft CR] Update of general introduction to IAB | * Ericsson | * approved |  |  |
| * S3-194281 | * Draft CR - Security for Integrated Access and Backhaul in EN-DC | * Ericsson | * merged |  | * S3-194599 |
| * S3-194282 | * AMF re-allocation | * Ericsson | * noted |  |  |
| * S3-194283 | * TNAP mobility using ERP | * Ericsson | * noted |  |  |
| * S3-194284 | * Trusted access key hierarchy | * Ericsson | * revised |  | * S3-194606 |
| * S3-194285 | * Trusted access key derivation | * Ericsson | * revised |  | * S3-194607 |
| * S3-194286 | * Introducing missing definitions of untrusted and trusted non-3GPP accesses | * Ericsson | * revised |  | * S3-194530 |
| * S3-194287 | * Determining trust relationship in the UE | * Ericsson | * revised |  | * S3-194531 |
| * S3-194288 | * [DRAFT] Reply to: 256 bit radio interface algorithm performance | * Ericsson | * revised |  | * S3-194456 |
| * S3-194289 | * UP-IP: Resolving editor's note in solution #7 | * Ericsson | * approved |  |  |
| * S3-194290 | * Conclusion on Key Issue 6: UE connected to 5GC indicating support of UP IP over eUTRA | * Ericsson | * noted |  |  |
| * S3-194291 | * ARPF Deployment models | * Ericsson | * approved |  |  |
| * S3-194292 | * Security Parameter Storage | * Ericsson | * revised |  | * S3-194664 |
| * S3-194293 | * Idle mode mobility from 5GS to EPS | * Ericsson | * not pursued |  |  |
| * S3-194294 | * Idle mode mobility from 5GS to EPS | * Ericsson | * not pursued |  |  |
| * S3-194295 | * Idle mode mobility from EPS to 5GS | * Ericsson | * revised |  | * S3-194460 |
| * S3-194296 | * Idle mode mobility from EPS to 5GS | * Ericsson | * not pursued |  | * - |
| * S3-194297 | * New KI: Existing authentication procedure lacking the PFS property | * Ericsson | * revised |  | * S3-194346 |
| * S3-194298 | * Error handling against violation of the basic validation rules | * Nokia, Nokia Shanghai Bell | * not pursued |  |  |
| * S3-194299 | * 33.216 Corrections for clean-up and alignment R15 | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194480 |
| * S3-194300 | * 33.216 Corrections for clean-up and alignment R16 | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194481 |
| * S3-194301 | * 33.117 Adding abbreviations and corrections for alignment | * Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-194302 | * Adding the provisioning of security policy to solution #16 | * Qualcomm Incorporated | * revised |  | * S3-194623 |
| * S3-194303 | * Resolving the Editor’s note on privacy in the evaluation of solution #8 | * Qualcomm Incorporated | * approved |  | * - |
| * S3-194304 | * Protection of IEs in Direct Communication Request message | * Qualcomm Incorporated | * revised |  | * S3-194649 |
| * S3-194305 | * Proposal of an evaluation of solution protecting IEs in Direct Communication Request message | * Qualcomm Incorporated | * approved |  |  |
| * S3-194306 | * Proposal of an evaluation of solution #12 on protecting the traffic at the PDCP layer | * Qualcomm Incorporated | * approved |  | * - |
| * S3-194307 | * Proposal of an evaluation of solution #16 on the activation of user plane security in NR PC5 unicast | * Qualcomm Incorporated | * revised |  | * S3-194646 |
| * S3-194308 | * Proposal conclusion for key issue #2 on security for eV2X unicast messages over PC5 | * Qualcomm Incorporated | * revised |  | * S3-194650 |
| * S3-194309 | * Proposed conclusion for Key Issue #1 on Unicast privacy | * Qualcomm Incorporated | * revised |  | * S3-194618 |
| * S3-194310 | * Proposed conclusion for Key Issue #4 on security of identifier conversion in groupcast communication | * Qualcomm Incorporated | * noted |  |  |
| * S3-194311 | * Proposed conclusion for Key Issue #6 on Security of the UE service authorization and revocation | * Qualcomm Incorporated | * noted |  |  |
| * S3-194312 | * Proposed text for the early clauses for V2X TS | * Qualcomm Incorporated, LG Electronics | * approved |  | * - |
| * S3-194313 | * Proposed text for security for V2X over Uu reference point clause | * Qualcomm Incorporated, LG Electronics | * revised |  | * S3-194615 |
| * S3-194314 | * Proposed inclusion of groupcast and broadcast privacy solutions | * Qualcomm Incorporated, LG Electronics | * revised |  | * S3-194613 |
| * S3-194315 | * Solving AMF re-allocations issues for via the RAN | * Qualcomm Incorporated | * noted |  |  |
| * S3-194316 | * Update to the evaluation of solution #4.1 on protecting SQN in AKA re-synchronisations | * Qualcomm Incorporated | * revised |  | * S3-194681 |
| * S3-194317 | * Clarifications to solution #10 on protecting S-NSSAIs | * Qualcomm Incorporated | * revised |  | * S3-194544 |
| * S3-194318 | * Update to the evaluation of solution #10 on protecting S-NSSAIs | * Qualcomm Incorporated | * revised |  | * S3-194545 |
| * S3-194319 | * Removing editor's note on capturing all the details for alternative authentication methods | * Qualcomm Incorporated | * revised |  | * S3-194549 |
| * S3-194320 | * Reply LS to SA2 on RRC Connection Reestablishment for CP for NB-IoT | * Qualcomm Incorporated | * noted |  |  |
| * S3-194321 | * CR on clarification of ARFCN in KgNB derivation | * Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-194322 | * CR on clarification of ARFCN in KgNB derivation | * Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-194323 | * RRC UE capability transfer procedure for CP only CIoT UEs | * Qualcomm Incorporated | * not pursued |  |  |
| * S3-194324 | * Security Requirement for KI #15 | * Qualcomm Incorporated | * merged |  | * S3-194491 |
| * S3-194325 | * AMF verification of the UE radio capabilities for CP optimization only CIoT UE | * Qualcomm Incorporated | * revised | * S3-193391 | * S3-194495 |
| * S3-194326 | * Hash based UE capability protection for CP optimization only CIoT UE | * Qualcomm Incorporated | * revised | * S3-193390 | * S3-194497 |
| * S3-194327 | * Shared key based MIB/SIBs integrity information provided by gNB | * Qualcomm Incorporated | * revised | * S3-193361 | * S3-194686 |
| * S3-194328 | * Evaluation on UE behavior on detection of false signature | * Qualcomm Incorporated | * noted | * S3-193363 |  |
| * S3-194329 | * Evaluation on signing key management | * Qualcomm Incorporated | * noted | * S3-193364 |  |
| * S3-194330 | * Solution #4 Evaluation (Enriched MR) | * Qualcomm Incorporated | * noted | * S3-193365 |  |
| * S3-194331 | * Evaluation on Solution #3.1 | * Qualcomm Incorporated, Ericsson | * noted | * S3-193358 |  |
| * S3-194332 | * Evaluation on Solution #4.2 | * Qualcomm Incorporated, Ericsson | * revised |  | * S3-194586 |
| * S3-194333 | * Conclusion on KI #4.1 | * Qualcomm Incorporated, Ericsson | * noted | * S3-193359 |  |
| * S3-194334 | * Reply LS to SAGE on 256-bit algorithms | * Qualcomm Incorporated | * merged |  | * S3-194456 |
| * S3-194335 | * Reply LS on SUCI computation from an NSI | * Qualcomm Incorporated | * revised |  | * S3-194548 |
| * S3-194336 | * Reply LS on PMF | * Qualcomm Incorporated | * noted |  |  |
| * S3-194337 | * Security aspects of RLOS | * Qualcomm Incorporated | * revised |  | * S3-194633 |
| * S3-194338 | * Proposed conclusion for KI#6 in TR 33.853 | * Qualcomm Incorporated | * noted |  |  |
| * S3-194339 | * Proposed way forward for KI#2 in TR 33.809 | * Qualcomm Incorporated | * noted |  |  |
| * S3-194340 | * pCR: Adding UE – AF interface to the AKMA Reference Model | * Qualcomm Incorporated | * approved |  |  |
| * S3-194341 | * pCR: pCR: Udpate of AKMA Key Hierarchy | * Qualcomm Incorporated | * approved |  | * - |
| * S3-194342 | * 33.511 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194473 |
| * S3-194343 | * 33.512 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194475 |
| * S3-194344 | * 33.513 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194476 |
| * S3-194345 | * 33.514 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-194346 | * New KI: Existing authentication procedure lacking the PFS property | * Ericsson,Apple, China Mobile, ZTE, Nokia | * noted | * S3-194297 |  |
| * S3-194347 | * 33.515 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194477 |
| * S3-194348 | * 33.516 Corrections for alignment | * Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-194349 | * 33.517 Adding abbreviations and corrections for alignment | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194478 |
| * S3-194350 | * 33.518 Adding abbreviations and corrections for alignment | * Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-194351 | * 33.519 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194479 |
| * S3-194352 | * Security requirements for UP Gateway Function | * Nokia, Nokia Shanghai Bell, Juniper | * revised |  | * S3-194443 |
| * S3-194353 | * TR 33.848 Solution – lock-down of infrastructure | * NCSC | * revised |  | * S3-194582 |
| * S3-194354 | * TR 33.848 Solution – trust domains and separation | * NCSC | * revised |  | * S3-194583 |
| * S3-194355 | * Protection of N9 interface | * Nokia, Nokia Shanghai Bell, Juniper Networks | * revised |  | * S3-194444 |
| * S3-194356 | * New WID for User Plane Gateway Function for the Inter-PLMN Security | * Juniper Networks | * revised |  | * S3-194445 |
| * S3-194357 | * Updates to Counter Check Procedure (Rel-15) | * Samsung | * revised |  | * S3-194449 |
| * S3-194358 | * Updates to Counter Check Procedure (Rel-16) | * Samsung | * revised |  | * S3-194601 |
| * S3-194359 | * Security requirements for SeCoP | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194446 |
| * S3-194360 | * Description of CAPIF reference point: 3e,4e,5e,7 and 7e | * Samsung | * revised |  | * S3-194464 |
| * S3-194361 | * Authentication and authorization between SeCoP and network functions | * Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-194362 | * Algorithm negotiation procedure for MC Service | * Samsung | * revised |  | * S3-194652 |
| * S3-194363 | * Authentication and authorization between SeCoPs | * Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-194364 | * Updates to Solution #2.1 on MT functionality | * Samsung, Qualcomm Incorporated, Ericsson, Nokia, Nokia Shanghai Bell | * approved |  |  |
| * S3-194365 | * Resource Level Authorization using Access Tokens | * Nokia, Nokia Shanghai Bell | * merged |  | * S3-194659 |
| * S3-194366 | * Updates and evaluation of solution #3.1 | * Samsung | * revised |  | * S3-194577 |
| * S3-194367 | * TLS between NF and SEPP based on custom HTTP header | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194518 |
| * S3-194368 | * Requirements for Secure environment of the IAB node | * Samsung | * revised |  | * S3-194594 |
| * S3-194369 | * IAB-node integration procedure | * Samsung | * revised |  | * S3-194597 |
| * S3-194370 | * Mutual authentication between Network Functions | * Nokia, Nokia Shanghai Bell | * not pursued |  | * - |
| * S3-194371 | * IAB-UE part set-up procedure | * Samsung | * revised |  | * S3-194598 |
| * S3-194372 | * NF consumer authentication by the producer in direct communication scenarios | * Nokia, Nokia Shanghai Bell | * not pursued |  | * - |
| * S3-194373 | * F1 interface set-up procedure | * Samsung | * noted |  |  |
| * S3-194374 | * TLS entity certificate profile for SBA | * Nokia, Nokia Shanghai Bell | * not pursued |  |  |
| * S3-194375 | * Solution for IAB Architecture | * Samsung | * revised |  | * S3-194599 |
| * S3-194376 | * SBA Network Function TLS certificate profile | * Nokia, Nokia Shanghai Bell | * not pursued |  | * - |
| * S3-194377 | * Solution #13 Evaluation and Conclusion | * Samsung, Intel | * revised |  | * S3-194558 |
| * S3-194378 | * Update to 5G\_eSBA WID | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194600 |
| * S3-194379 | * New Solution to Key Issue #6.2 | * Samsung | * revised |  | * S3-194557 |
| * S3-194380 | * Discussion paper on authorization for Model D Indirect communications | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194381 | * Udpate to Solution #3 | * Samsung | * approved |  | * - |
| * S3-194382 | * Update to conclusion on Key issue #22: Authorization of NF service access in indirect communication | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194383 | * Key Issue #6.1 conclusion | * Samsung | * noted |  |  |
| * S3-194384 | * Conclusion for Key Issues #6.1 and #6.2 | * Samsung | * noted |  |  |
| * S3-194385 | * Updated TR33.845 - includes docs agreed at SA3#95 Adhoc | * Vodafone España SA | * approved |  |  |
| * S3-194386 | * CAG cell access check | * Samsung | * noted |  |  |
| * S3-194387 | * Skeleton for SEAL TS 33.434 | * Samsung | * revised |  | * S3-194627 |
| * S3-194388 | * Scope for SEAL TS 33.434 | * Samsung | * revised |  | * S3-194628 |
| * S3-194389 | * Adding reference, term, abbreviation to the SEAL TS 33.434 | * Samsung | * revised |  | * S3-194629 |
| * S3-194390 | * Security requirements for SEAL | * Samsung | * revised |  | * S3-194631 |
| * S3-194391 | * Security for SEAL interfaces | * Samsung | * revised |  | * S3-194632 |
| * S3-194392 | * VAL user authentication and authorization | * Samsung | * noted |  |  |
| * S3-194393 | * Security procedure for S-KMC and S-KMS | * Samsung | * noted |  |  |
| * S3-194394 | * Annex X: OpenID Connect | * Samsung | * noted |  |  |
| * S3-194395 | * Annex Y for TS 33.434 | * Samsung | * noted |  |  |
| * S3-194396 | * Conclusion to Key Issue #5 | * Samsung | * noted |  |  |
| * S3-194397 | * UPGF - Align with Inter PLMN UP Security Function (IPUPS) | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194398 | * Requirements for KI#18 The Startup Paradox | * Ericsson | * revised |  | * S3-194587 |
| * S3-194399 | * Source IP address range check for UPGF | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194463 |
| * S3-194400 | * Removing ENs in annex X in the living document for 5WWC | * CableLabs, Charter Communications,Lenovo, Motorola Mobility, EricssonRogers Communications, Nokia, Nokia Shanghai Bell, | * not pursued | * S3-194030 | * - |
| * S3-194401 | * NPN clarifications | * Nokia, Nokia Shanghai Bell,Qualcomm | * agreed |  |  |
| * S3-194402 | * Removal of ed.note on conformance tests | * Nokia, Nokia Shanghai Bell,Qualcomm | * agreed |  |  |
| * S3-194403 | * CAG ID privacy conclusion | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194693 |
| * S3-194404 | * CAG ID privacy | * Nokia, Nokia Shanghai Bell | * not pursued |  |  |
| * S3-194405 | * Annex 5GLAN | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194428 |
| * S3-194406 | * Annex TSC security intro | * Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-194407 | * TSC gPTP message protection | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194423 |
| * S3-194408 | * TSC conclusion | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194422 |
| * S3-194409 | * Authentication of a TSC enabled UE | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194550 |
| * S3-194410 | * UP security in TSC | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194424 |
| * S3-194411 | * UDR study - title correction | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194669 |
| * S3-194412 | * UDR study - intro | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-194670 |
| * S3-194413 | * Privacy solution for groupcast | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194414 | * Evaluation to privacy solution for groupcast | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194415 | * Discussion of New Study - eNPN Vertical\_LAN\_SEC | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194416 | * Enhanced NPN Security for Vertical and LAN Services.doc | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194417 | * [Draft CR]Solution for IAB Architecture (Baseline version) | * Samsung | * revised |  | * S3-194596 |
| * S3-194418 | * Comment on S3-194061 | * Huawei, HiSilicon | * noted |  |  |
| * S3-194419 | * Clarification on aspects specific to the network product class UDM and AMF | * Huawei, Hisilicon | * agreed | * S3-194179 |  |
| * S3-194420 | * Comments on S3-194315 | * HUAWEI TECHNOLOGIES Co. Ltd. | * noted |  |  |
| * S3-194421 | * living CR of URLLC | * Huawei, Hisilicon | * revised |  | * S3-194467 |
| * S3-194422 | * TSC conclusion | * Nokia, Nokia Shanghai Bell | * revised | * S3-194408 | * S3-194552 |
| * S3-194423 | * TSC gPTP message protection | * Nokia, Nokia Shanghai Bell | * approved | * S3-194407 |  |
| * S3-194424 | * UP security in TSC | * Nokia, Nokia Shanghai Bell | * revised | * S3-194410 | * S3-194553 |
| * S3-194425 | * Update on solution#15 in TR 33.855 | * Huawei, Hisilicon | * revised | * S3-194183 | * S3-194509 |
| * S3-194426 | * Forwarding of Reply LS on GUTI allocation for 5G CIoT | * C1-198560 | * noted |  |  |
| * S3-194427 | * Security for TSC service | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194428 | * Annex 5GLAN | * Nokia, Nokia Shanghai Bell | * agreed | * S3-194405 |  |
| * S3-194429 | * Commenting on S3-194222 | * Nokia Germany | * merged |  | * S3-194555 |
| * S3-194430 | * Commenting contribution on S3-194261 – Resource Level Authorization using Access Tokens | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194431 | * Nokia comments on S3-193970 PMF protocol security | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-194432 | * Comments to S3-194019 DTR 33.848, Key Issue #19 Clauses 5.20.2 and 5.20.3 | * Ericsson | * revised |  | * S3-194588 |
| * S3-194433 | * Reply LS on how the IWF obtains key material for interworking group and private communications | * S6-192194 | * postponed | * - | * - |
| * S3-194434 | * LS on Application Architecture for enabling Edge Applications | * S6-192399 | * noted | * - | * - |
| * S3-194435 | * LS on native 5G NAS security context activation | * C1-199003 | * postponed | * - | * - |
| * S3-194436 | * LS on GUTI allocation for MT-EDT in 5G CIoT | * C1-199005 | * noted | * - | * - |
| * S3-194437 | * LS on Use of 3gpp-Sbi-Target-apiRoot header in HTTP requests from NFs to SEPP | * C4-195375 | * replied to | * - | * - |
| * S3-194438 | * Reply LS on GTP Recovery Counter & GSN node behaviour | * C4-195518 | * noted | * - | * - |
| * S3-194439 | * LS on ARPF in UDICOM | * C4-195553 | * postponed | * - | * - |
| * S3-194440 | * LS on usage of IMSI during 3GPP based authentication | * C4-195574 | * replied to | * - | * - |
| * S3-194441 | * LS on user identity when 5G-AKA or EAP AKA’ is used for SNPN | * C6-190468 | * replied to | * - | * - |
| * S3-194442 | * Agenda | * WG Chairman | * approved | * S3-193900 | * - |
| * S3-194443 | * Security requirements for UP Gateway Function | * Nokia, Nokia Shanghai Bell, Juniper | * agreed | * S3-194352 | * - |
| * S3-194444 | * Protection of N9 interface | * Nokia, Nokia Shanghai Bell, Juniper Networks | * agreed | * S3-194355 | * - |
| * S3-194445 | * New WID for User Plane Gateway Function for the Inter-PLMN Security | * Juniper Networks | * agreed | * S3-194356 | * - |
| * S3-194446 | * Security requirements for SeCoP | * Nokia, Nokia Shanghai Bell | * agreed | * S3-194359 | * - |
| * S3-194447 | * Reply LS\_on\_CHO key derivation | * Apple | * approved | * S3-193966 | * - |
| * S3-194448 | * 33501-CR on CHO key derivation | * Apple | * not pursued | * S3-193969 | * - |
| * S3-194449 | * Updates to Counter Check Procedure (Rel-15) | * Samsung | * agreed | * S3-194357 | * - |
| * S3-194450 | * LS reply to RAN WG3 LS on security for multi-CU-UP connectivity | * CATT | * approved | * S3-194139 | * - |
| * S3-194451 | * Reply to: LS on security consideration of performance measurement function protocol | * ZTE | * noted | * - | * - |
| * S3-194452 | * Reply LS on UP gateway function on the N9 interface | * Juniper Networks | * approved | * S3-193989 | * - |
| * S3-194453 | * Reply to: LS on Use of 3gpp-Sbi-Target-apiRoot header in HTTP requests from NFs to SEPP | * Nokia | * approved | * - | * - |
| * S3-194454 | * Reply to: LS on usage of IMSI during 3GPP based authentication | * Nokia | * approved | * - | * - |
| * S3-194455 | * Reply to: LS on user identity when 5G-AKA or EAP AKA’ is used for SNPN | * Samsung | * approved | * - | * - |
| * S3-194456 | * Reply to: 256 bit radio interface algorithm performance | * Ericsson | * approved | * S3-194288 | * - |
| * S3-194457 | * Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility | * Intel | * agreed | * - | * - |
| * S3-194458 | * Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility | * Intel Corporation (UK) Ltd | * agreed | * S3-194076 | * - |
| * S3-194459 | * Adding TSC abbreviation | * Nokia | * agreed | * - | * - |
| * S3-194460 | * Idle mode mobility from EPS to 5GS | * Ericsson | * not pursued | * S3-194295 | * - |
| * S3-194461 | * Idle mode mobility from EPS to 5GS | * Ericsson | * withdrawn | * - | * - |
| * S3-194462 | * Add Missing Procedure for Security Handling for RRCConnectionRe-establishment Procedure | * Huawei, Hisilicon | * withdrawn | * - | * - |
| * S3-194463 | * Source IP address range check for UPGF | * Nokia, Nokia Shanghai Bell | * merged | * S3-194399 | * S3-194443 |
| * S3-194464 | * Description of CAPIF reference point: 3e,4e,5e,7 and 7e | * Samsung | * agreed | * S3-194360 | * - |
| * S3-194465 | * Draft CR as a living baseline for 5GS LCS normative work | * CATT | * approved | * S3-194150 | * - |
| * S3-194466 | * Resolving ENs in Draft CR as a living baseline for 5GS LCS normative work | * Ericsson,Huawei,CATT | * approved | * S3-194271 | * - |
| * S3-194467 | * living CR of URLLC | * Huawei, Hisilicon | * approved | * S3-194421 | * - |
| * S3-194468 | * New WID on eV2X security | * LG Electronics Inc. | * agreed | * S3-193979 | * - |
| * S3-194469 | * Clean up | * Huawei, Hisilicon | * approved | * S3-194125 | * - |
| * S3-194470 | * Resolve EN about how to ensure the UP security policy to be the same | * Ericsson,Huawei | * approved | * S3-194225 | * - |
| * S3-194471 | * New SID on the security of the system enablers for devices having multiple Universal Subscriber Identity Modules (USIM) | * Intel Corporation (UK) Ltd | * noted | * S3-194078 | * - |
| * S3-194472 | * URLLC living CR: clarifications related to security policy | * Nokia, Nokia Shanghai Bell,Huawei,Ericsson | * withdrawn | * - | * - |
| * S3-194473 | * 33.511 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * agreed | * S3-194342 | * - |
| * S3-194474 | * Update test cases for gNB SCAS | * Huawei, Hisilicon | * agreed | * S3-194223 | * - |
| * S3-194475 | * 33.512 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell,Huawei | * agreed | * S3-194343 | * - |
| * S3-194476 | * 33.513 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell,Huawei | * agreed | * S3-194344 | * - |
| * S3-194477 | * 33.515 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell,Futurewei | * agreed | * S3-194347 | * - |
| * S3-194478 | * 33.517 Adding abbreviations and corrections for alignment | * Nokia, Nokia Shanghai Bell | * agreed | * S3-194349 | * - |
| * S3-194479 | * 33.519 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell,ZTE | * agreed | * S3-194351 | * - |
| * S3-194480 | * 33.216 Corrections for clean-up and alignment R15 | * Nokia, Nokia Shanghai Bell | * agreed | * S3-194299 | * - |
| * S3-194481 | * 33.216 Corrections for clean-up and alignment R16 | * Nokia, Nokia Shanghai Bell | * agreed | * S3-194300 | * - |
| * S3-194482 | * Reply to: Reply LS on RRC Connection Reestablishment for CP for NB-IoT connected to 5GC | * Huawei | * approved | * - | * - |
| * S3-194483 | * DraftCR – Living document for supporting 5G CIoT security | * Ericsson | * approved | * S3-194242 | * - |
| * S3-194484 | * [Draft CR] RRC Connection Re-Establishment for the control plane for NB-IoT radio access connected to 5GC | * Ericsson,Huawei | * approved | * S3-194236 | * - |
| * S3-194485 | * General for Security handling in User Plane CIoT 5GS Optimization | * Huawei, Hisilicon | * approved | * S3-194103 | * - |
| * S3-194486 | * Security handling in Connection Suspend Procedure for User Plane CIoT 5GS Optimization | * Huawei, Hisilicon | * approved | * S3-194104 | * - |
| * S3-194487 | * Security handling in Connection Resume in CM-IDLE with Suspend to a new ng-eNB for User Plane CIoT 5GS Optimization | * Huawei, Hisilicon | * approved | * S3-194105 | * - |
| * S3-194488 | * Reply LS on Handling of UE radio network capabilities in 4G and 5G | * Intel Corporation (UK) Ltd | * approved | * S3-194075 | * - |
| * S3-194489 | * draft TR 33.861 | * Ericsson | * approved | * - | * - |
| * S3-194490 | * KI 14 Potential Security Requirement | * NIST, ATT, Sprint Corporation, CableLabs, Deutsche Telekom AG, Cisco | * approved | * S3-193991 | * - |
| * S3-194491 | * Updates to Key issue Protection of UE capability transfer for UEs without AS security | * Intel Corporation (UK) Ltd,Qualcomm,Huawei,Ericsson | * approved | * S3-194080 | * - |
| * S3-194492 | * New Solution for KI #14 | * NIST, ATT, Sprint, CableLabs, Deutsche Telekom AG, Cisco | * approved | * S3-193992 | * - |
| * S3-194493 | * Protection of UE capability transfer for CP optimization only CIoT UE | * Huawei, Hisilicon | * approved | * S3-194088 | * - |
| * S3-194494 | * Security solution for UE Capability Transfer for UE with no AS security. | * Intel Corporation (UK) Ltd | * approved | * S3-194079 | * - |
| * S3-194495 | * AMF verification of the UE radio capabilities for CP optimization only CIoT UE | * Qualcomm Incorporated | * approved | * S3-194325 | * - |
| * S3-194496 | * KI#15 - new solution for handling UEs without AS security | * Ericsson | * withdrawn | * - | * - |
| * S3-194497 | * Hash based UE capability protection for CP optimization only CIoT UE | * Qualcomm Incorporated | * approved | * S3-194326 | * - |
| * S3-194498 | * Proposed conclusion to KI#1 | * Ericsson | * approved | * S3-194235 | * - |
| * S3-194499 | * Consistent use of off-network | * Motorola Solutions UK Ltd. | * agreed | * S3-193996 | * - |
| * S3-194500 | * [33.180] R16 - TrK ID and InK ID | * Motorola Solutions UK Ltd. | * agreed | * S3-193998 | * - |
| * S3-194501 | * LS to CT1 on 3rd ETSI MCX Remote Plugtest | * Motorola Solutions UK Ltd. | * revised | * S3-194001 | * S3-194611 |
| * S3-194502 | * Minutes of the Mission Critical offline session | * Qualcomm | * noted | * - | * - |
| * S3-194503 | * Notes from the eSBA break out session | * NTT-Docomo | * noted | * - | * - |
| * S3-194504 | * Update to conclusion on Key issue #23: NF to NF authentication and authorization in Indirect communication | * Ericsson | * withdrawn | * - | * - |
| * S3-194505 | * Security requirement on Key Issue #24: service access authorization of a NF Set | * Huawei, Hisilicon | * approved | * S3-194194 | * - |
| * S3-194506 | * Evaluation on service access authorization of a NF Set in non-roaming scenario | * Huawei, Hisilicon | * approved | * S3-194192 | * - |
| * S3-194507 | * Evaluation on service access authorization of a NF Set in roaming scenario | * Huawei, Hisilicon | * approved | * S3-194193 | * - |
| * S3-194508 | * Conclusion on service access authorization of a NF Set | * Huawei, Hisilicon | * approved | * S3-194186 | * - |
| * S3-194509 | * Update on solution#15 in TR 33.855 | * Huawei, Hisilicon | * approved | * S3-194425 | * - |
| * S3-194510 | * New KI: Service access authorization for non-delegated subscribe-notify | * Huawei, Hisilicon | * approved | * S3-194165 | * - |
| * S3-194511 | * New solution for authorization in the non-delegated "Subscribe-Notify" interaction scenarios | * Huawei, Hisilicon | * approved | * S3-194182 | * - |
| * S3-194512 | * eSBA: conclusion update on KI #29 | * Huawei, Hisilicon | * noted | * S3-194168 | * - |
| * S3-194513 | * New Key issue on NF subtypes for authorization granularity | * Ericsson | * noted | * S3-194258 | * - |
| * S3-194514 | * Conclusion for Key Issue #5 "NF-NF Authorization" | * Ericsson | * noted | * S3-194254 | * - |
| * S3-194515 | * Removal of Editor's Notes for Security of indirect communication in roaming scenarios | * Ericsson | * approved | * S3-194257 | * - |
| * S3-194516 | * Draft TR 33.855 | * Ericsson | * approved | * - | * - |
| * S3-194517 | * Editorials and corrections to Security requirements for SeCoP | * Ericsson | * approved | * S3-194250 | * - |
| * S3-194518 | * TLS between NF and SEPP based on custom HTTP header | * Nokia, Nokia Shanghai Bell | * agreed | * S3-194367 | * - |
| * S3-194519 | * Security for roaming interfaces in indirect communication | * Ericsson,Nokia | * agreed | * S3-194256 | * - |
| * S3-194520 | * Mutual authentication between Network Functions | * Nokia, Nokia Shanghai Bell | * withdrawn | * - | * - |
| * S3-194521 | * NF consumer authentication by the producer in direct communication scenarios | * Nokia, Nokia Shanghai Bell | * withdrawn | * - | * - |
| * S3-194522 | * Using Rel-15 token-based authorization in indirect communication scenarios | * Ericsson | * approved | * - | * - |
| * S3-194523 | * Service access authorization of a NF Set | * Huawei, Hisilicon | * agreed | * - | * - |
| * S3-194524 | * SBA Network Function TLS certificate profile | * Nokia, Nokia Shanghai Bell | * noted | * - | * - |
| * S3-194525 | * New WID on Security Aspects of PARLOS | * SPRINT Corporation | * agreed | * S3-193913 | * - |
| * S3-194526 | * Skeleton for TS on eV2X | * LG Electronics Inc. | * approved | * S3-193982 | * - |
| * S3-194527 | * New WID: Work Item on Security Assurance Specification for IMS | * Huawei, Hisilicon | * agreed | * S3-194180 | * - |
| * S3-194528 | * New WID on 3GPP profiles for cryptographic algorithms and IETF protocols | * Ericsson | * agreed | * S3-194269 | * - |
| * S3-194529 | * Living doc for 5WWC | * Huawei, Hisilicon | * approved | * S3-194126 | * - |
| * S3-194530 | * Introducing missing definitions of untrusted and trusted non-3GPP accesses | * Ericsson | * approved | * S3-194286 | * - |
| * S3-194531 | * Determining trust relationship in the UE | * Ericsson | * approved | * S3-194287 | * - |
| * S3-194532 | * Editorial change for trusted non-3GPP access | * Huawei, Hisilicon | * approved | * S3-194113 | * - |
| * S3-194533 | * Update content for trusted non-3GPP access | * Huawei, Hisilicon | * approved | * S3-194114 | * - |
| * S3-194534 | * 256 bit algorithm candidates | * ETIS SAGE | * postponed | * - | * - |
| * S3-194535 | * Reply to: Reply LS on AUSF role in slice specific authentication | * Ericsson | * noted | * - | * - |
| * S3-194536 | * Add content to Clause X.X.2 of eNS | * Huawei, HiSilicon,Nokia,Ericsson, Interdigital | * approved | * S3-194045 | * - |
| * S3-194537 | * DraftCR – Proposed call flow for Network Slice Specific Authentication and Authorization | * Ericsson,Huawei | * approved | * S3-194212 | * - |
| * S3-194538 | * Note for the User ID privacy protection in Clause X.X.3 | * Huawei, HiSilicon | * approved | * S3-194047 | * - |
| * S3-194539 | * DraftCR - Proposed flow for Re-authentication and Re-authorization | * Ericsson | * approved | * S3-194213 | * - |
| * S3-194540 | * DraftCR – Proposing a new AUSF service to support NSSAA flow | * Ericsson | * approved | * S3-194215 | * - |
| * S3-194541 | * Living document on slice specific authentication procedures | * Nokia | * approved | * - | * - |
| * S3-194542 | * Solution 8 update | * Huawei, HiSilicon | * approved | * S3-194051 | * - |
| * S3-194543 | * Draft TR 33.813 | * Nokia | * approved | * - | * - |
| * S3-194544 | * Clarifications to solution #10 on protecting S-NSSAIs | * Qualcomm Incorporated | * approved | * S3-194317 | * - |
| * S3-194545 | * Update to the evaluation of solution #10 on protecting S-NSSAIs | * Qualcomm Incorporated | * approved | * S3-194318 | * - |
| * S3-194546 | * TR 33.813 - update for the evaluation for solution #11 | * InterDigital Communications | * approved | * S3-193911 | * - |
| * S3-194547 | * Update of solution #12 in TR 33.813 | * ZTE Corporation | * approved | * S3-194068 | * - |
| * S3-194548 | * Reply LS on SUCI computation from an NSI | * Qualcomm Incorporated | * approved | * S3-194335 | * - |
| * S3-194549 | * Removing editor's note on capturing all the details for alternative authentication methods | * Qualcomm Incorporated | * agreed | * S3-194319 | * - |
| * S3-194550 | * Access security for a TSC-enabled UE | * Nokia, Nokia Shanghai Bell | * agreed | * S3-194409 | * - |
| * S3-194551 | * Draft TR 33.819 | * Nokia | * approved | * - | * - |
| * S3-194552 | * TSC conclusion | * Nokia, Nokia Shanghai Bell | * approved | * S3-194422 | * - |
| * S3-194553 | * UP security in TSC | * Nokia, Nokia Shanghai Bell,Huawei | * agreed | * S3-194424 | * - |
| * S3-194554 | * Reply LS on Sending CAG ID in NAS layer | * R3-197591 | * replied to | * - | * - |
| * S3-194555 | * New conclusion for handling UP security policy in a 5GLAN group | * Ericsson,Nokia | * approved | * S3-194222 | * - |
| * S3-194556 | * Udpate to Solution #3 | * Samsung | * withdrawn | * - | * - |
| * S3-194557 | * New Solution to Key Issue #6.2 | * Samsung | * approved | * S3-194379 | * - |
| * S3-194558 | * Solution #13 Evaluation and Conclusion | * Samsung, Intel | * approved | * S3-194377 | * - |
| * S3-194559 | * Reply to: Reply LS on Sending CAG ID in NAS layer | * Qualcomm | * approved | * - | * - |
| * S3-194560 | * Notes on the security impacts on the virtualization offline session | * NTT-Docomo | * noted | * - | * - |
| * S3-194561 | * Corrections on clause 4.3 | * Huawei, Hisilicon | * approved | * S3-194136 | * - |
| * S3-194562 | * remove unspecified SDOs | * Huawei, Hisilicon | * approved | * S3-194162 | * - |
| * S3-194563 | * Clarifying interfaces in clause 5.2.3.3.4 and clause 5.2.3.4.5 | * China Mobile,Nokia | * approved | * S3-194141 | * - |
| * S3-194564 | * Adding security requirements for GVNP of type 1 | * China Mobile | * approved | * S3-194145 | * - |
| * S3-194565 | * Adding security functional requirements deriving virtualisation and related test cases for GVNP of type 1 | * China Mobile | * withdrawn | * - | * - |
| * S3-194566 | * Draft TR 33.824 | * Samsung | * approved | * - | * - |
| * S3-194567 | * LS on SECAM Accreditation for Virtualised Network Products (VNPs) | * Nokia, Nokia Shanghai Bell, China Mobile | * approved | * S3-194232 | * - |
| * S3-194568 | * DTR 33848 KI1 – clause 5\_2\_3 | * T-Mobile USA Inc. | * approved | * S3-194002 | * - |
| * S3-194569 | * DTR 33848 KI2 – clause 5\_3\_3 | * T-Mobile USA Inc. | * approved | * S3-194003 | * - |
| * S3-194570 | * DTR 33848 KI3 – clause 5\_4\_3 | * T-Mobile USA Inc. | * approved | * S3-194004 | * - |
| * S3-194571 | * DTR 33848 KI4 – clause 5\_5\_3 | * T-Mobile USA Inc. | * noted | * S3-194005 | * - |
| * S3-194572 | * DTR 33848 KI5 – clause 5\_6\_3 | * T-Mobile USA Inc. | * approved | * S3-194006 | * - |
| * S3-194573 | * DTR 33848 KI6 – clause 5\_7\_3 | * T-Mobile USA Inc. | * approved | * S3-194007 | * - |
| * S3-194574 | * DTR 33848 KI7 – clause 5\_8\_3 | * T-Mobile USA Inc. | * approved | * S3-194008 | * - |
| * S3-194575 | * DTR 33848 KI8 – clause 5\_9\_3 | * T-Mobile USA Inc. | * approved | * S3-194009 | * - |
| * S3-194576 | * DTR 33848 KI9 – clause 5\_10\_3 | * T-Mobile USA Inc. | * approved | * S3-194010 | * - |
| * S3-194577 | * Updates and evaluation of solution #3.1 | * Samsung | * approved | * S3-194366 | * - |
| * S3-194578 | * DTR 33848 KI11 – clause 5\_12\_3 | * T-Mobile USA Inc. | * approved | * S3-194011 | * - |
| * S3-194579 | * DTR 33848 KI12 – clause 5\_13\_3 | * T-Mobile USA Inc. | * approved | * S3-194012 | * - |
| * S3-194580 | * DTR 33848 KI13 – clause 5\_14\_3 | * T-Mobile USA Inc. | * approved | * S3-194013 | * - |
| * S3-194581 | * DTR 33848 KI14 – clause 5\_15\_3 | * T-Mobile USA Inc. | * approved | * S3-194014 | * - |
| * S3-194582 | * TR 33.848 Solution – lock-down of infrastructure | * NCSC | * approved | * S3-194353 | * - |
| * S3-194583 | * TR 33.848 Solution – trust domains and separation | * NCSC | * approved | * S3-194354 | * - |
| * S3-194584 | * DTR 33848 KI15 – clause 5\_16\_3 | * T-Mobile USA Inc. | * approved | * S3-194015 | * - |
| * S3-194585 | * DTR 33848 KI16 – clause 5\_17\_3 | * T-Mobile USA Inc. | * approved | * S3-194016 | * - |
| * S3-194586 | * Evaluation on Solution #4.2 | * Qualcomm Incorporated, Ericsson | * approved | * S3-194332 | * - |
| * S3-194587 | * Requirements for KI#18 The Startup Paradox | * Ericsson | * approved | * S3-194398 | * - |
| * S3-194588 | * Comments to S3-194019 DTR 33.848, Key Issue #19 Clauses 5.20.2 and 5.20.3 | * Ericsson,T-Mobile | * approved | * S3-194432 | * - |
| * S3-194589 | * DTR 33848 KI20 – clause 5\_21\_3 | * T-Mobile USA Inc. | * approved | * S3-194020 | * - |
| * S3-194590 | * DTR 33848 KI21 – clause 5\_22\_3 | * T-Mobile USA Inc. | * approved | * S3-194021 | * - |
| * S3-194591 | * DTR 33848 KI22 – clause 5\_23\_3 | * T-Mobile USA Inc. | * approved | * S3-194022 | * - |
| * S3-194592 | * DTR 33848 KI23 – clause 5\_24\_3 | * T-Mobile USA Inc. | * approved | * S3-194023 | * - |
| * S3-194593 | * DTR 33848 KI24 – clause 5\_25\_3 | * T-Mobile USA Inc. | * approved | * S3-194024 | * - |
| * S3-194594 | * Requirements for Secure environment of the IAB node | * Samsung | * approved | * S3-194368 | * - |
| * S3-194595 | * [Draft CR] Security requirements on the IAB node, IAB donor and 5GC supporting IAB architecture | * Ericsson | * approved | * S3-194275 | * - |
| * S3-194596 | * [Draft CR]Solution for IAB Architecture (Baseline version) | * Samsung | * approved | * S3-194417 | * - |
| * S3-194597 | * IAB-node integration procedure | * Samsung,Ericsson | * approved | * S3-194369 | * - |
| * S3-194598 | * IAB-UE part set-up procedure | * Samsung,Ericsson | * approved | * S3-194371 | * - |
| * S3-194599 | * Solution for IAB Architecture | * Samsung .Ericsson | * approved | * S3-194375 | * - |
| * S3-194600 | * Update to 5G\_eSBA WID | * Nokia, Nokia Shanghai Bell | * agreed | * S3-194378 | * - |
| * S3-194601 | * Updates to Counter Check Procedure (Rel-16) | * Samsung | * agreed | * S3-194358 | * - |
| * S3-194602 | * 33401-CR on CHO key derivation | * Apple | * not pursued | * S3-193968 | * - |
| * S3-194603 | * Reply to: LS on IANA assigned values for mission critical | * Motorola Solutions | * approved | * - | * - |
| * S3-194604 | * Proposed conclusion to KI #14 | * Ericsson | * approved | * S3-194246 | * - |
| * S3-194605 | * Notes on the V2X offline session | * NTT-Docomo | * noted | * - | * - |
| * S3-194606 | * Trusted access key hierarchy | * Ericsson | * approved | * S3-194284 | * - |
| * S3-194607 | * Trusted access key derivation | * Ericsson | * approved | * S3-194285 | * - |
| * S3-194608 | * Corrections on N5CW connects 5GC via trusted non-3GPP access | * Huawei, Hisilicon | * withdrawn | * - | * - |
| * S3-194609 | * Move Requirement of 5G-RG to clause 5 | * Huawei, Hisilicon | * approved | * S3-194117 | * - |
| * S3-194610 | * Removing ENs in annex X in the living document for 5WWC | * CableLabs, Charter Communications,Lenovo, Motorola Mobility, EricssonRogers Communications, Nokia, Nokia Shanghai Bell, | * approved | * - | * - |
| * S3-194611 | * LS to CT1 on 3rd ETSI MCX Remote Plugtest | * Motorola Solutions UK Ltd. | * approved | * S3-194501 | * - |
| * S3-194612 | * Draft TR 33.818 | * China Mobile | * approved | * - | * - |
| * S3-194613 | * Proposed inclusion of groupcast and broadcast privacy solutions | * Qualcomm Incorporated, LG Electronics,Ericsson | * approved | * S3-194314 | * - |
| * S3-194614 | * Proposed text for the early clauses for V2X TS | * Qualcomm Incorporated, LG Electronics | * withdrawn | * - | * - |
| * S3-194615 | * Proposed text for security for V2X over Uu reference point clause | * Qualcomm Incorporated, LG Electronics,Ericsson | * approved | * S3-194313 | * - |
| * S3-194616 | * 33.836 – update of evaluation for the Solution #1 | * InterDigital Communications | * approved | * S3-193960 | * - |
| * S3-194617 | * TR 33.836 – update of evaluation for the solution #4 | * InterDigital Communications | * withdrawn | * - | * - |
| * S3-194618 | * Proposed conclusion for Key Issue #1 on Unicast privacy | * Qualcomm Incorporated,Interdigital | * approved | * S3-194309 | * - |
| * S3-194619 | * Updates to solution 9 | * Intel Corporation (UK) Ltd | * approved | * S3-194081 | * - |
| * S3-194620 | * TR 33.836 – update of evaluation for the solution #2 | * InterDigital Communications | * approved | * S3-193959 | * - |
| * S3-194621 | * Resolving the Editor’s note on privacy in the evaluation of solution #8 | * Qualcomm Incorporated | * withdrawn | * - | * - |
| * S3-194622 | * Proposal of an evaluation of solution #12 on protecting the traffic at the PDCP layer | * Qualcomm Incorporated | * withdrawn | * - | * - |
| * S3-194623 | * Adding the provisioning of security policy to solution #16 | * Qualcomm Incorporated | * approved | * S3-194302 | * - |
| * S3-194624 | * Draft TR 33.848 | * BT | * approved | * - | * - |
| * S3-194625 | * Draft TS 33.xyz on V2X | * Lge | * approved | * - | * - |
| * S3-194626 | * Draft TR 33.836 | * Lge | * approved | * - | * - |
| * S3-194627 | * Skeleton for SEAL TS 33.434 | * Samsung | * approved | * S3-194387 | * - |
| * S3-194628 | * Scope for SEAL TS 33.434 | * Samsung | * approved | * S3-194388 | * - |
| * S3-194629 | * Adding reference, term, abbreviation to the SEAL TS 33.434 | * Samsung | * approved | * S3-194389 | * - |
| * S3-194630 | * Draft TR 33.434 | * Samsung | * approved | * - | * - |
| * S3-194631 | * Security requirements for SEAL | * Samsung | * approved | * S3-194390 | * - |
| * S3-194632 | * Security for SEAL interfaces | * Samsung | * approved | * S3-194391 | * - |
| * S3-194633 | * Security aspects of RLOS | * Qualcomm Incorporated | * agreed | * S3-194337 | * - |
| * S3-194634 | * Draft TR 33.935 | * Vodafone | * approved | * - | * - |
| * S3-194635 | * Draft TR 33.835 | * China Mobile | * approved | * - | * - |
| * S3-194636 | * Conclusion on end to end security | * China Mobile, KPN | * approved | * S3-194209 | * - |
| * S3-194637 | * Conclusions on Key Management | * Ericsson | * approved | * S3-194273 | * - |
| * S3-194638 | * Editoral changes on solution for AKMA change | * Huawei, Hisilicon | * approved | * S3-194170 | * - |
| * S3-194639 | * AKMA: add conclusion on KI #17 | * Huawei, Hisilicon | * withdrawn | * - | * - |
| * S3-194640 | * Draft TS 33.535 | * China Mobile | * approved | * - | * - |
| * S3-194641 | * Add AAnF description into clause 4.2 | * China Mobile, Nokia, Nokia Shanghai Bel, Huaweil | * approved | * S3-194200 | * - |
| * S3-194642 | * AKMA interface description | * Huawei, Hisilicon | * approved | * S3-194128 | * - |
| * S3-194643 | * Add content to clause 4.4 | * China Mobile, Nokia, Nokia Shanghai Bell,Huawei | * approved | * S3-194201 | * - |
| * S3-194644 | * AKMA key management | * Huawei, Hisilicon | * approved | * S3-194130 | * - |
| * S3-194645 | * Clause 6.X – Deriving AKMA key during UE registration | * Nokia, Nokia Shanghai Bell, China Mobile | * approved | * S3-194228 | * - |
| * S3-194646 | * Proposal of an evaluation of solution #16 on the activation of user plane security in NR PC5 unicast | * Qualcomm Incorporated | * approved | * S3-194307 | * - |
| * S3-194647 | * Resolving the EN and adding the evaluation of solution #17 | * Huawei, Hisilicon | * approved | * S3-194173 | * - |
| * S3-194648 | * eV2X: Solution for the UP security activation policy handling in NR PC5 unicast | * Huawei, Hisilicon | * approved | * S3-194175 | * - |
| * S3-194649 | * Protection of IEs in Direct Communication Request message | * Qualcomm Incorporated | * approved | * S3-194304 | * - |
| * S3-194650 | * Proposal conclusion for key issue #2 on security for eV2X unicast messages over PC5 | * Qualcomm Incorporated,Interdigital,Huawei | * approved | * S3-194308 | * - |
| * S3-194651 | * Solution#14 Evaluation | * Lenovo, Motorola Mobility | * approved | * S3-194149 | * - |
| * S3-194652 | * Algorithm negotiation procedure for MC Service | * Samsung,Motorola Solutions | * agreed | * S3-194362 | * - |
| * S3-194653 | * New Solution for secure identifier conversion in groupcast | * Huawei, HiSilicon | * approved | * S3-194041 | * - |
| * S3-194654 | * Providing analysis to Solution #13 in TR 33.836 | * Huawei, Hisilicon | * approved | * S3-194097 | * - |
| * S3-194655 | * LS on minimizing the impact of privacy protection mechanisms in the application layer | * Huawei | * noted | * - | * - |
| * S3-194656 | * Conclusion for Key issue 9 | * LG Electronics Inc. | * withdrawn | * - | * - |
| * S3-194657 | * eV2X: conclusion on KI #10 | * Huawei, Hisilicon,LG | * approved | * S3-194177 | * - |
| * S3-194658 | * LS on PC5 unicast and groupcast security protection | * InterDigital Communications | * approved | * S3-193990 | * - |
| * S3-194659 | * Resource Level Authorization using Access Tokens | * Ericsson,Nokia | * noted | * - | * - |
| * S3-194660 | * Authentication subscription data | * KPN, Nokia | * approved | * S3-193986 | * - |
| * S3-194661 | * Key issue on Protection of long-term key during storage in UDR | * KPN, Nokia, Nokia Shanghai Bell | * approved | * S3-194247 | * - |
| * S3-194662 | * Key issue on Protection of long-term key during transfer out of UDR | * KPN, Nokia, Nokia Shanghai Bell | * approved | * S3-194249 | * - |
| * S3-194663 | * Draft TR 33.845 | * Vodafone | * approved | * - | * - |
| * S3-194664 | * Security Parameter Storage | * Ericsson | * approved | * S3-194292 | * - |
| * S3-194665 | * Notes from the offline session on false base stations | * NTT-Docomo | * noted | * - | * - |
| * S3-194666 | * Reply to: LS on GUTI allocation for MT-EDT in 5G CIoT | * Ericsson | * noted | * - | * - |
| * S3-194667 | * Updates to solution #7 - capability negotiation | * Ericsson | * approved | * S3-194202 | * - |
| * S3-194668 | * Updates to solution #17 - resolving Ens | * Ericsson | * approved | * S3-194208 | * - |
| * S3-194669 | * UDR study - title correction | * Nokia, Nokia Shanghai Bell | * approved | * S3-194411 | * - |
| * S3-194670 | * UDR study - intro | * Nokia, Nokia Shanghai Bell | * approved | * S3-194412 | * - |
| * S3-194671 | * UE activates UP IP over eUTRA to EPC | * Huawei, Hisilicon | * approved | * S3-194120 | * - |
| * S3-194672 | * Draft TR 33.853 | * Vodafone | * approved | * - | * - |
| * S3-194673 | * Resolving the ENs in KI#3.1 | * Huawei, Hisilicon | * approved | * S3-194189 | * - |
| * S3-194674 | * LS on deleting invalid autnentication results in UDM | * Huawei | * approved | * - | * - |
| * S3-194675 | * AUTH\_Enh-update for solution#4.1 | * Apple,Huawei | * approved | * S3-194026 | * - |
| * S3-194676 | * Draft TR 33.846 | * Ericsson | * approved | * - | * - |
| * S3-194677 | * AUTH\_Enh-Evaluation for solution#2.4 | * Apple | * approved | * S3-193974 | * - |
| * S3-194678 | * Resolving the ENs of solution#2.5 in the TR 33.846 | * Huawei, Hisilicon | * approved | * S3-194188 | * - |
| * S3-194679 | * Add solution details and evaluation to solutioin 4.1 | * Huawei, Hisilicon | * approved | * S3-194085 | * - |
| * S3-194680 | * LS on resynchronization | * Qualcomm | * approved | * - | * - |
| * S3-194681 | * Update to the evaluation of solution #4.1 on protecting SQN in AKA re-synchronisations | * Qualcomm Incorporated | * approved | * S3-194316 | * - |
| * S3-194682 | * Updates to solution #7 - network sharing | * Ericsson | * withdrawn | * - | * - |
| * S3-194683 | * Updates to solution #7 - signature schemes and length | * Ericsson | * approved | * S3-194204 | * - |
| * S3-194684 | * Draft TR 33.809 | * Apple | * approved | * - | * - |
| * S3-194685 | * 5GFBS-Update for solution#11 | * Apple | * approved | * S3-194028 | * - |
| * S3-194686 | * Shared key based MIB/SIBs integrity information provided by gNB | * Qualcomm Incorporated | * approved | * S3-194327 | * - |
| * S3-194687 | * Reply LS to RAN2 on FBS detection | * Huawei, HiSilicon | * noted | * S3-194033 | * - |
| * S3-194688 | * Update solution 4 to clarify MIB/SIB Hash report | * Huawei, HiSilicon | * approved | * S3-194032 | * - |
| * S3-194689 | * Address EN in solution 6 and solution 18 | * Huawei, Hisilicon | * noted | * S3-194110 | * - |
| * S3-194690 | * Resolving the ENs of solution#5 in the TR 33.809 | * Huawei, Hisilicon, Lenovo, Motorola Mobility | * approved | * S3-194190 | * - |
| * S3-194691 | * Clarification on primary authentication in direct NAS reroute for Rel-15 | * Huawei, Hisilicon | * agreed | * S3-194198 | * - |
| * S3-194692 | * Clarification on primary authentication in direct NAS reroute for Rel-16 | * Huawei, Hisilicon,ZTE | * agreed | * S3-194199 | * - |
| * S3-194693 | * CAG ID privacy conclusion | * Nokia, Nokia Shanghai Bell | * noted | * S3-194403 | * - |
| * S3-194694 | * 5WWC | * Huawei | * withdrawn | * - | * - |
| * S3-194695 | * Cover sheet TR 33.835 for approval | * China Mobile | * approved | * S3-194217 | * - |
| * S3-194696 | * Presentation of TR 33.819 to SA plenary | * Nokia | * approved | * - | * - |
| * S3-194697 | * New solution to KI#9 | * Huawei, HiSilicon | * noted | * S3-194042 | * - |
| * S3-194698 | * UP IP-update for solution#9 | * Apple | * approved | * S3-193972 | * - |
| * S3-194699 | * Work Plan input from Rapporteurs | * MCC | * noted | * S3-193906 | * - |

## Annex B: List of change requests

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Document | Title | Source | Spec | CR | Rev | Rel | Cat | WI | Decision |
| * S3-194159 | * Miscellaneous Editorial clarifications in 33.117 | * Huawei, Hisilicon | * 33.117 | * 0055 | * - | * Rel-16 | * D | * SCAS\_5G | * agreed |
| * S3-194301 | * 33.117 Adding abbreviations and corrections for alignment | * Nokia, Nokia Shanghai Bell | * 33.117 | * 0056 | * - | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194360 | * Description of CAPIF reference point: 3e,4e,5e,7 and 7e | * Samsung | * 33.122 | * 0026 | * - | * Rel-16 | * B | * eCAPIF | * revised |
| * S3-194464 | * Description of CAPIF reference point: 3e,4e,5e,7 and 7e | * Samsung | * 33.122 | * 0026 | * 1 | * Rel-16 | * B | * eCAPIF | * agreed |
| * S3-193923 | * [MCPTT] 33179 R13 Missing Abbreviations | * Airbus | * 33.179 | * 0103 | * - | * Rel-13 | * F | * MCPTT | * agreed |
| * S3-193924 | * [MCPTT] 33179 R13 Reference Addition | * Airbus | * 33.179 | * 0104 | * - | * Rel-13 | * F | * MCPTT | * agreed |
| * S3-193925 | * [MCPTT] 33179 R13 Correction concerning IdM client | * Airbus | * 33.179 | * 0105 | * - | * Rel-13 | * F | * MCPTT | * agreed |
| * S3-193914 | * [MCXSec] 33180 R16 Missing Abbreviations (Mirror) | * Airbus | * 33.180 | * 0117 | * - | * Rel-16 | * A | * MCSec | * agreed |
| * S3-193915 | * [MCXSec] 33180 R16 Reference Addition (Mirror) | * Airbus | * 33.180 | * 0118 | * - | * Rel-16 | * A | * MCSec | * agreed |
| * S3-193916 | * [MCXSec] 33180 R16 Correction concerning IdM client (Mirror) | * Airbus | * 33.180 | * 0119 | * - | * Rel-16 | * A | * MCSec | * agreed |
| * S3-193917 | * [eMCSec] 33180 R15 Missing Abbreviations (Mirror) | * Airbus | * 33.180 | * 0120 | * - | * Rel-15 | * A | * MCSec | * agreed |
| * S3-193918 | * [eMCSec] 33180 R15 Reference Addition (Mirror) | * Airbus | * 33.180 | * 0121 | * - | * Rel-15 | * A | * MCSec | * agreed |
| * S3-193919 | * [eMCSec] 33180 R15 Correction concerning IdM client (Mirror) | * Airbus | * 33.180 | * 0122 | * - | * Rel-15 | * A | * MCSec | * agreed |
| * S3-193920 | * [MCSec] 33180 R14 Missing Abbreviations | * Airbus | * 33.180 | * 0123 | * - | * Rel-14 | * F | * MCSec | * agreed |
| * S3-193921 | * [MCSec] 33180 R14 Reference Addition (Mirror) | * Airbus | * 33.180 | * 0124 | * - | * Rel-14 | * F | * MCSec | * agreed |
| * S3-193922 | * [MCSec] 33180 R14 Correction concerning IdM client (Mirror) | * Airbus | * 33.180 | * 0125 | * - | * Rel-14 | * F | * MCSec | * agreed |
| * S3-193993 | * [33.180] R14 - Fix bad reference | * Motorola Solutions UK Ltd. | * 33.180 | * 0126 | * - | * Rel-14 | * F | * MCSec | * agreed |
| * S3-193994 | * [33.180] R15 Fix bad reference (mirror) | * Motorola Solutions UK Ltd. | * 33.180 | * 0127 | * - | * Rel-15 | * A | * MCSec | * agreed |
| * S3-193995 | * [33.180] R16 Fix bad reference (mirror) | * Motorola Solutions UK Ltd. | * 33.180 | * 0128 | * - | * Rel-16 | * A | * MCSec | * agreed |
| * S3-193996 | * [33.180] R16 - Consistent use of off-network | * Motorola Solutions UK Ltd. | * 33.180 | * 0129 | * - | * Rel-16 | * F | * MCXSec | * revised |
| * S3-194499 | * Consistent use of off-network | * Motorola Solutions UK Ltd. | * 33.180 | * 0129 | * 1 | * Rel-16 | * F | * MCXSec | * agreed |
| * S3-193997 | * [33.180] R16 KM client to KMS security | * Motorola Solutions UK Ltd. | * 33.180 | * 0130 | * - | * Rel-16 | * F | * MCXSec | * agreed |
| * S3-193998 | * [33.180] R16 - TrK ID and InK ID | * Motorola Solutions UK Ltd. | * 33.180 | * 0131 | * - | * Rel-16 | * F | * MCXSec | * revised |
| * S3-194500 | * [33.180] R16 - TrK ID and InK ID | * Motorola Solutions UK Ltd. | * 33.180 | * 0131 | * 1 | * Rel-16 | * F | * MCXSec | * agreed |
| * S3-193999 | * [33.180] R16 - InterSD KM record | * Motorola Solutions UK Ltd. | * 33.180 | * 0132 | * - | * Rel-16 | * C | * MCXSec | * agreed |
| * S3-194000 | * [33.180] R16 ETSI Plugtest clarifications | * Motorola Solutions UK Ltd. | * 33.180 | * 0133 | * - | * Rel-16 | * F | * MCXSec | * agreed |
| * S3-194362 | * Algorithm negotiation procedure for MC Service | * Samsung | * 33.180 | * 0134 | * - | * Rel-16 | * B | * eMCSec | * revised |
| * S3-194652 | * Algorithm negotiation procedure for MC Service | * Samsung,Motorola Solutions | * 33.180 | * 0134 | * 1 | * Rel-16 | * B | * MCXSec | * agreed |
| * S3-194264 | * TLS Recommended Cipher Suites | * Ericsson | * 33.210 | * 0061 | * - | * Rel-16 | * F | * TEI16 | * not pursued |
| * S3-194265 | * Required TLS extenstions and algorithms | * Ericsson | * 33.210 | * 0062 | * - | * Rel-16 | * F | * TEI16 | * not pursued |
| * S3-194266 | * IKEv2 profile update 33.210 | * Ericsson | * 33.210 | * 0063 | * - | * Rel-16 | * F | * TEI16 | * not pursued |
| * S3-194299 | * 33.216 Corrections for clean-up and alignment R15 | * Nokia, Nokia Shanghai Bell | * 33.216 | * 0005 | * - | * Rel-15 | * F | * SCAS\_eNB | * revised |
| * S3-194480 | * 33.216 Corrections for clean-up and alignment R15 | * Nokia, Nokia Shanghai Bell | * 33.216 | * 0005 | * 1 | * Rel-15 | * F | * SCAS\_eNB | * agreed |
| * S3-194300 | * 33.216 Corrections for clean-up and alignment R16 | * Nokia, Nokia Shanghai Bell | * 33.216 | * 0006 | * - | * Rel-16 | * A | * SCAS\_eNB | * revised |
| * S3-194481 | * 33.216 Corrections for clean-up and alignment R16 | * Nokia, Nokia Shanghai Bell | * 33.216 | * 0006 | * 1 | * Rel-16 | * A | * SCAS\_eNB | * agreed |
| * S3-194263 | * Certificate and CRL profile update | * Ericsson | * 33.310 | * 0102 | * - | * Rel-16 | * F | * DUMMY | * not pursued |
| * S3-194267 | * IKEv2 profile update 33.310 | * Ericsson | * 33.310 | * 0103 | * - | * Rel-16 | * F | * TEI16 | * not pursued |
| * S3-193968 | * 33401-CR on CHO key derivation | * Apple | * 33.401 | * 0683 | * - | * Rel-16 | * C | * TEI16,5GS\_Ph1-SEC | * revised |
| * S3-194602 | * 33401-CR on CHO key derivation | * Apple | * 33.401 | * 0683 | * 1 | * Rel-16 | * C | * TEI16,5GS\_Ph1-SEC | * not pursued |
| * S3-194243 | * Security of RRC UE capability transfer procedure in EPS | * Ericsson | * 33.401 | * 0684 | * - | * Rel-15 | * F | * TEI15 | * not pursued |
| * S3-194244 | * RRC Connection Resume and Suspend procedures | * Ericsson | * 33.401 | * 0685 | * - | * Rel-15 | * F | * TEI15 | * agreed |
| * S3-194245 | * RRC Connection Resume and Suspend procedures | * Ericsson | * 33.401 | * 0686 | * - | * Rel-16 | * A | * TEI15 | * agreed |
| * S3-194337 | * Security aspects of RLOS | * Qualcomm Incorporated | * 33.401 | * 0687 | * - | * Rel-16 | * B | * DUMMY | * revised |
| * S3-194633 | * Security aspects of RLOS | * Qualcomm Incorporated | * 33.401 | * 0687 | * 1 | * Rel-16 | * B | * DUMMY | * agreed |
| * S3-193969 | * 33501-CR on CHO key derivation | * Apple | * 33.501 | * 0661 | * - | * Rel-16 | * C | * TEI16 | * revised |
| * S3-194448 | * 33501-CR on CHO key derivation | * Apple | * 33.501 | * 0661 | * 1 | * Rel-16 | * C | * TEI16 | * not pursued |
| * S3-194027 | * Horizontal derivation when AMF re-allocation | * Apple, vivo | * 33.501 | * 0662 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-194030 | * Removing ENs in annex X in the living document for 5WWC | * CableLabs, Charter Communications, Rogers Communications, Nokia, Nokia Shanghai Bell | * 33.501 | * 0663 | * - | * Rel-16 | * F | * FS\_5WWC\_SEC | * revised |
| * S3-194400 | * Removing ENs in annex X in the living document for 5WWC | * CableLabs, Charter Communications,Lenovo, Motorola Mobility, EricssonRogers Communications, Nokia, Nokia Shanghai Bell, | * 33.501 | * 0663 | * 1 | * Rel-16 | * F | * FS\_5WWC\_SEC | * not pursued |
| * S3-194031 | * CR-R16-Horizontal derivation when AMF re-allocation | * Apple, vivo | * 33.501 | * 0664 | * - | * Rel-16 | * A | * 5GS\_Ph1-SEC | * merged |
| * S3-194066 | * Security handling in registration with AMF re-allocation | * ZTE Corporation | * 33.501 | * 0665 | * - | * Rel-16 | * F | * TEI16,5GS\_Ph1-SEC | * merged |
| * S3-194076 | * Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility | * Intel Corporation (UK) Ltd | * 33.501 | * 0666 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-194458 | * Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility | * Intel Corporation (UK) Ltd | * 33.501 | * 0666 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-194111 | * Add Missing Procedure for Security Handling for RRCConnectionRe-establishment Procedure | * Huawei, Hisilicon | * 33.501 | * 0667 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-194462 | * Add Missing Procedure for Security Handling for RRCConnectionRe-establishment Procedure | * Huawei, Hisilicon | * 33.501 | * 0667 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-194112 | * Mirror for Adding Missing Procedure for Security Handling for RRCConnectionRe-establishment Procedure | * Huawei, Hisilicon | * 33.501 | * 0668 | * - | * Rel-16 | * A | * 5GS\_Ph1-SEC | * agreed |
| * S3-194195 | * Solving registration failure in registration procedure with AMF reallocation | * Huawei, Hisilicon | * 33.501 | * 0669 | * - | * Rel-16 | * F | * TEI16 | * not pursued |
| * S3-194196 | * Clarification on AMF reallocation via direct NAS reroute for Rel-15 | * Huawei, Hisilicon | * 33.501 | * 0670 | * - | * Rel-16 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-194197 | * Clarification on AMF reallocation via direct NAS reroute for Rel-16 | * Huawei, Hisilicon | * 33.501 | * 0671 | * - | * Rel-16 | * A | * 5GS\_Ph1-SEC | * not pursued |
| * S3-194198 | * Clarification on primary authentication in direct NAS reroute for Rel-15 | * Huawei, Hisilicon | * 33.501 | * 0672 | * - | * Rel-16 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-194691 | * Clarification on primary authentication in direct NAS reroute for Rel-15 | * Huawei, Hisilicon | * 33.501 | * 0672 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-194199 | * Clarification on primary authentication in direct NAS reroute for Rel-16 | * Huawei, Hisilicon | * 33.501 | * 0673 | * - | * Rel-16 | * A | * 5GS\_Ph1-SEC | * revised |
| * S3-194692 | * Clarification on primary authentication in direct NAS reroute for Rel-16 | * Huawei, Hisilicon,ZTE | * 33.501 | * 0673 | * 1 | * Rel-16 | * A | * 5GS\_Ph1-SEC | * agreed |
| * S3-194252 | * Using Rel-15 token-based authorization in indirect communication scenarios | * Ericsson | * 33.501 | * 0674 | * - | * Rel-16 | * B | * 5G\_eSBA | * not pursued |
| * S3-194256 | * Security for roaming interfaces in indirect communication | * Ericsson | * 33.501 | * 0675 | * - | * Rel-16 | * B | * 5G\_eSBA | * revised |
| * S3-194519 | * Security for roaming interfaces in indirect communication | * Ericsson,Nokia | * 33.501 | * 0675 | * 1 | * Rel-16 | * B | * 5G\_eSBA | * agreed |
| * S3-194261 | * Resource Level Authorization using Access Tokens | * Ericsson | * 33.501 | * 0676 | * - | * Rel-16 | * B | * 5G\_eSBA | * not pursued |
| * S3-194262 | * Authorization using Access Tokens based on NF-Subtype | * Ericsson | * 33.501 | * 0677 | * - | * Rel-16 | * B | * 5G\_eSBA | * not pursued |
| * S3-194268 | * Using EAP-TLS with TLS 1.3 | * Ericsson | * 33.501 | * 0678 | * - | * Rel-16 | * F | * TEI16 | * not pursued |
| * S3-194293 | * Idle mode mobility from 5GS to EPS | * Ericsson | * 33.501 | * 0679 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-194294 | * Idle mode mobility from 5GS to EPS | * Ericsson | * 33.501 | * 0680 | * - | * Rel-16 | * A | * 5GS\_Ph1-SEC | * not pursued |
| * S3-194295 | * Idle mode mobility from EPS to 5GS | * Ericsson | * 33.501 | * 0681 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-194460 | * Idle mode mobility from EPS to 5GS | * Ericsson | * 33.501 | * 0681 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-194296 | * Idle mode mobility from EPS to 5GS | * Ericsson | * 33.501 | * 0682 | * - | * Rel-16 | * A | * 5GS\_Ph1-SEC | * not pursued |
| * S3-194461 | * Idle mode mobility from EPS to 5GS | * Ericsson | * 33.501 | * 0682 | * 1 | * Rel-16 | * A | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-194298 | * Error handling against violation of the basic validation rules | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0683 | * - | * Rel-16 | * B | * 5GS\_Ph1-SEC | * not pursued |
| * S3-194319 | * Removing editor's note on capturing all the details for alternative authentication methods | * Qualcomm Incorporated | * 33.501 | * 0684 | * - | * Rel-16 | * F | * Vertical\_LAN\_SEC | * revised |
| * S3-194549 | * Removing editor's note on capturing all the details for alternative authentication methods | * Qualcomm Incorporated | * 33.501 | * 0684 | * 1 | * Rel-16 | * F | * Vertical\_LAN\_SEC | * agreed |
| * S3-194321 | * CR on clarification of ARFCN in KgNB derivation | * Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | * 33.501 | * 0685 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-194322 | * CR on clarification of ARFCN in KgNB derivation | * Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | * 33.501 | * 0686 | * - | * Rel-16 | * A | * 5GS\_Ph1-SEC | * agreed |
| * S3-194323 | * RRC UE capability transfer procedure for CP only CIoT UEs | * Qualcomm Incorporated | * 33.501 | * 0687 | * - | * Rel-16 | * F | * 5G\_CIoT | * not pursued |
| * S3-194352 | * Security requirements for UP Gateway Function | * Nokia, Nokia Shanghai Bell, Juniper | * 33.501 | * 0688 | * - | * Rel-16 | * B | * DUMMY | * revised |
| * S3-194443 | * Security requirements for UP Gateway Function | * Nokia, Nokia Shanghai Bell, Juniper | * 33.501 | * 0688 | * 1 | * Rel-16 | * B | * DUMMY | * agreed |
| * S3-194355 | * Protection of N9 interface | * Nokia, Nokia Shanghai Bell, Juniper Networks | * 33.501 | * 0689 | * - | * Rel-16 | * B | * DUMMY | * revised |
| * S3-194444 | * Protection of N9 interface | * Nokia, Nokia Shanghai Bell, Juniper Networks | * 33.501 | * 0689 | * 1 | * Rel-16 | * B | * DUMMY | * agreed |
| * S3-194357 | * Updates to Counter Check Procedure (Rel-15) | * Samsung | * 33.501 | * 0690 | * - | * Rel-15 | * C | * 5GS\_Ph1-SEC | * revised |
| * S3-194449 | * Updates to Counter Check Procedure (Rel-15) | * Samsung | * 33.501 | * 0690 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-194358 | * Updates to Counter Check Procedure (Rel-16) | * Samsung | * 33.501 | * 0691 | * - | * Rel-16 | * A | * TEI16 | * revised |
| * S3-194601 | * Updates to Counter Check Procedure (Rel-16) | * Samsung | * 33.501 | * 0691 | * 1 | * Rel-16 | * A | * 5GS\_Ph1-SEC | * agreed |
| * S3-194359 | * Security requirements for SeCoP | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0692 | * - | * Rel-16 | * B | * 5G\_eSBA | * revised |
| * S3-194446 | * Security requirements for SeCoP | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0692 | * 1 | * Rel-16 | * B | * 5G\_eSBA | * agreed |
| * S3-194361 | * Authentication and authorization between SeCoP and network functions | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0693 | * - | * Rel-16 | * B | * 5G\_eSBA | * agreed |
| * S3-194363 | * Authentication and authorization between SeCoPs | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0694 | * - | * Rel-16 | * B | * 5G\_eSBA | * agreed |
| * S3-194365 | * Resource Level Authorization using Access Tokens | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0695 | * - | * Rel-16 | * B | * 5G\_eSBA | * merged |
| * S3-194367 | * TLS between NF and SEPP based on custom HTTP header | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0696 | * - | * Rel-16 | * B | * 5G\_eSBA | * revised |
| * S3-194518 | * TLS between NF and SEPP based on custom HTTP header | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0696 | * 1 | * Rel-16 | * B | * 5G\_eSBA | * agreed |
| * S3-194370 | * Mutual authentication between Network Functions | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0697 | * - | * Rel-16 | * B | * 5G\_eSBA | * not pursued |
| * S3-194520 | * Mutual authentication between Network Functions | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0697 | * 1 | * Rel-16 | * B | * 5G\_eSBA | * withdrawn |
| * S3-194372 | * NF consumer authentication by the producer in direct communication scenarios | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0698 | * - | * Rel-16 | * B | * 5G\_eSBA | * not pursued |
| * S3-194521 | * NF consumer authentication by the producer in direct communication scenarios | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0698 | * 1 | * Rel-16 | * B | * 5G\_eSBA | * withdrawn |
| * S3-194374 | * TLS entity certificate profile for SBA | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0699 | * - | * Rel-16 | * B | * 5G\_eSBA | * not pursued |
| * S3-194376 | * SBA Network Function TLS certificate profile | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0700 | * - | * Rel-16 | * B | * 5G\_eSBA | * not pursued |
| * S3-194401 | * NPN clarifications | * Nokia, Nokia Shanghai Bell,Qualcomm | * 33.501 | * 0701 | * - | * Rel-16 | * F | * Vertical\_LAN\_SEC | * agreed |
| * S3-194402 | * Removal of ed.note on conformance tests | * Nokia, Nokia Shanghai Bell,Qualcomm | * 33.501 | * 0702 | * - | * Rel-16 | * F | * Vertical\_LAN\_SEC | * agreed |
| * S3-194404 | * CAG ID privacy | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0703 | * - | * Rel-16 | * B | * Vertical\_LAN\_SEC | * not pursued |
| * S3-194405 | * Annex 5GLAN | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0704 | * - | * Rel-16 | * B | * Vertical\_LAN\_SEC | * revised |
| * S3-194428 | * Annex 5GLAN | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0704 | * 1 | * Rel-16 | * B | * Vertical\_LAN\_SEC | * agreed |
| * S3-194406 | * Annex TSC security intro | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0705 | * - | * Rel-16 | * B | * Vertical\_LAN\_SEC | * agreed |
| * S3-194409 | * Authentication of a TSC enabled UE | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0706 | * - | * Rel-16 | * B | * Vertical\_LAN\_SEC | * revised |
| * S3-194550 | * Access security for a TSC-enabled UE | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0706 | * 1 | * Rel-16 | * B | * Vertical\_LAN\_SEC | * agreed |
| * S3-194410 | * UP security in TSC | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0707 | * - | * Rel-16 | * B | * Vertical\_LAN\_SEC | * revised |
| * S3-194424 | * UP security in TSC | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0707 | * 1 | * Rel-16 | * B | * Vertical\_LAN\_SEC | * revised |
| * S3-194553 | * UP security in TSC | * Nokia, Nokia Shanghai Bell,Huawei | * 33.501 | * 0707 | * 2 | * Rel-16 | * B | * Vertical\_LAN\_SEC | * agreed |
| * S3-194457 | * Correction of handling of 5G security contexts during EPS to 5GS idle mode mobility | * Intel | * 33.501 | * 0708 | * - | * Rel-16 | * A | * 5GS\_Ph1-SEC | * agreed |
| * S3-194459 | * Adding TSC abbreviation | * Nokia | * 33.501 | * 0709 | * - | * Rel-16 | * D | * Vertical\_LAN\_SEC | * agreed |
| * S3-194523 | * Service access authorization of a NF Set | * Huawei, Hisilicon | * 33.501 | * 0710 | * - | * Rel-16 | * B | * 5G\_eSBA | * agreed |
| * S3-194694 | * 5WWC | * Huawei | * 33.501 | * 0711 | * - | * Rel-16 | * B | * 5WWC | * withdrawn |
| * S3-194131 | * Adding some evidence | * Huawei, Hisilicon | * 33.511 | * 0006 | * - | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194223 | * Update test cases for gNB SCAS | * Huawei, Hisilicon | * 33.511 | * 0007 | * - | * Rel-16 | * F | * SCAS\_5G | * revised |
| * S3-194474 | * Update test cases for gNB SCAS | * Huawei, Hisilicon | * 33.511 | * 0007 | * 1 | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194224 | * Fix some reference numbers | * Huawei, Hisilicon | * 33.511 | * 0008 | * - | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194270 | * Test cases referring to TS 33.117 | * Ericsson | * 33.511 | * 0009 | * - | * Rel-16 | * F | * SCAS\_5G | * not pursued |
| * S3-194342 | * 33.511 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * 33.511 | * 0010 | * - | * Rel-16 | * F | * SCAS\_5G | * revised |
| * S3-194473 | * 33.511 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * 33.511 | * 0010 | * 1 | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194132 | * Modify the message names | * Huawei, Hisilicon | * 33.512 | * 0001 | * - | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194133 | * Fix the threat reference numbers for AMF | * Huawei, Hisilicon | * 33.512 | * 0002 | * - | * Rel-16 | * F | * SCAS\_5G | * merged |
| * S3-194134 | * Amendment on 4.2.2.1.2 on AMF | * Huawei, Hisilicon | * 33.512 | * 0003 | * - | * Rel-16 | * F | * SCAS\_5G | * withdrawn |
| * S3-194343 | * 33.512 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * 33.512 | * 0004 | * - | * Rel-16 | * F | * SCAS\_5G | * revised |
| * S3-194475 | * 33.512 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell,Huawei | * 33.512 | * 0004 | * 1 | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194135 | * Fix the threat reference numbers for UPF | * Huawei, Hisilicon | * 33.513 | * 0001 | * - | * Rel-16 | * F | * SCAS\_5G | * merged |
| * S3-194344 | * 33.513 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * 33.513 | * 0002 | * - | * Rel-16 | * F | * SCAS\_5G | * revised |
| * S3-194476 | * 33.513 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell,Huawei | * 33.513 | * 0002 | * 1 | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194345 | * 33.514 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * 33.514 | * 0001 | * - | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-193907 | * Alignment with TR 33.926 | * Futurewei Technologies | * 33.515 | * 0001 | * - | * Rel-16 | * F | * SCAS\_5G | * merged |
| * S3-193908 | * Reference Correction | * Futurewei Technologies | * 33.515 | * 0002 | * - | * Rel-16 | * F | * SCAS\_5G | * merged |
| * S3-193909 | * Adding missing abbreviations | * Futurewei Technologies | * 33.515 | * 0003 | * - | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194347 | * 33.515 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * 33.515 | * 0004 | * - | * Rel-16 | * F | * SCAS\_5G | * revised |
| * S3-194477 | * 33.515 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell,Futurewei | * 33.515 | * 0004 | * 1 | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194348 | * 33.516 Corrections for alignment | * Nokia, Nokia Shanghai Bell | * 33.516 | * 0001 | * - | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194349 | * 33.517 Adding abbreviations and corrections for alignment | * Nokia, Nokia Shanghai Bell | * 33.517 | * 0001 | * - | * Rel-16 | * F | * SCAS\_5G | * revised |
| * S3-194478 | * 33.517 Adding abbreviations and corrections for alignment | * Nokia, Nokia Shanghai Bell | * 33.517 | * 0001 | * 1 | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194350 | * 33.518 Adding abbreviations and corrections for alignment | * Nokia, Nokia Shanghai Bell | * 33.518 | * 0001 | * - | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194067 | * Editorial correction in TS 33.519 | * ZTE Corporation | * 33.519 | * 0001 | * - | * Rel-16 | * D | * SCAS\_5G | * merged |
| * S3-194351 | * 33.519 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell | * 33.519 | * 0002 | * - | * Rel-16 | * F | * SCAS\_5G | * revised |
| * S3-194479 | * 33.519 Corrections for clean-up and alignment | * Nokia, Nokia Shanghai Bell,ZTE | * 33.519 | * 0002 | * 1 | * Rel-16 | * F | * SCAS\_5G | * agreed |
| * S3-194157 | * Miscellaneous Editorial clarifications in 33.916 | * Huawei, Hisilicon | * 33.916 | * 0006 | * - | * Rel-15 | * F | * SCAS-SA3,TEI15 | * agreed |
| * S3-194161 | * Update of clause 4 | * Huawei, Hisilicon | * 33.916 | * 0007 | * - | * Rel-16 | * F | * SCAS\_5G | * not pursued |
| * S3-194158 | * Miscellaneous Editorial clarifications in 33.926 | * Huawei, Hisilicon | * 33.926 | * 0029 | * - | * Rel-16 | * D | * SCAS\_5G | * agreed |
| * S3-194179 | * Clarification on aspects specific to the network product class UDM and AMF | * Huawei, Hisilicon | * 33.926 | * 0030 | * - | * Rel-16 | * F | * SCAS\_5G | * revised |
| * S3-194419 | * Clarification on aspects specific to the network product class UDM and AMF | * Huawei, Hisilicon | * 33.926 | * 0030 | * 1 | * Rel-16 | * F | * SCAS\_5G | * agreed |

## Annex C: Lists of liaisons

### C1: Incoming liaison statements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document | Original | Title | From | Decision | Reply TDoc |
| * S3-193926 |  | * LS on IANA assigned values for mission critical | * C1-195042 | * replied to | * S3-194603 |
| * S3-193927 |  | * Reply LS on NAS Aspects of Mobile-terminated Early Data Transmission | * C1-195111 | * noted | * (none) |
| * S3-193928 |  | * Reply LS on Mobile-terminated Early Data Transmission | * R2-1911603 | * noted | * (none) |
| * S3-193929 |  | * LS on network slice-specific authentication and authorization | * C1-196903 | * noted | * (none) |
| * S3-193930 |  | * LS on how the IWF obtains key material for interworking group and private communications | * C1-196979 | * noted | * (none) |
| * S3-193931 |  | * LS on Clarification on the requirement for steering of roaming | * C1-197001 | * noted | * (none) |
| * S3-193932 |  | * LS on O-RAN Alliance & 3GPP Coordination on O-RAN Alliance Outputs | * O-RAN Alliance | * noted | * (none) |
| * S3-193933 |  | * Reply LS to “O-RAN Alliance & 3GPP Coordination on O-RAN Alliance Outputs” | * SP-190947 | * noted | * (none) |
| * S3-193934 |  | * LS on AS key derivation for conditional handover | * R2-1911565 | * replied to | * S3-194447 |
| * S3-193935 |  | * LS on impact on UTRAN of 5G SRVCC | * R2-1911753 | * noted | * (none) |
| * S3-193936 |  | * Reply LS on bulk authentication issue for IoT devices | * R2-1911790 | * noted | * (none) |
| * S3-193937 |  | * LS on misalignment in Counter Check Procedure | * R2-1911837 | * noted | * (none) |
| * S3-193938 |  | * Reply LS on Handling of UE radio network capabilities in 4G and 5G | * R2-1911850 | * replied to | * S3-194488 |
| * S3-193939 |  | * LS on PC5-S Signaling and PC5-RRC connection for NR sidelink communication | * R2-1914151 | * noted | * (none) |
| * S3-193940 |  | * LS to SA3 on False Base Station Detection | * R3-196256 | * noted | * (none) |
| * S3-193941 |  | * Reply LS to SA3 on FBS detection | * R2-1914224 | * postponed | * (none) |
| * S3-193942 |  | * LS on security for multi-CU-UP connectivity | * R3-194784 | * replied to | * (none) |
| * S3-193943 |  | * Reply LS on eSBA NF Set | * S2-1910148 | * noted | * (none) |
| * S3-193944 |  | * Reply LS on LS on the IAB-indication to core network | * S2-1910281 | * noted | * (none) |
| * S3-193945 |  | * Reply LS on AUSF role in slice specific authentication | * S2-1910668 | * postponed | * ???? |
| * S3-193946 |  | * LS Response Reply LS on support of non-3GPP only UE and support for PEI in IMEI format | * S2-1910679 | * noted | * (none) |
| * S3-193947 |  | * LS Response on Security Aspects of AMF Re-allocation Procedure | * S2-1910724 | * noted | * (none) |
| * S3-193948 |  | * Reply LS on RRC Connection Reestablishment for CP for NB-IoT connected to 5GC | * S2-1910789 | * replied to | * S3-194482 |
| * S3-193949 |  | * Reply LS on UP gateway function on the N9 interface | * S2-1910808 | * replied to | * S3-194452 |
| * S3-193950 |  | * 256 bit radio interface algorithm performance | * ETSI SAGE | * replied to | * S3-194456 |
| * S3-193951 |  | * LS on Enhancing Location Information Reporting with Dual Connectivity | * S3i190671 | * noted | * (none) |
| * S3-193952 |  | * LS on SG17 new work item X.sles “Security measures for location enabled smart office services” | * ITU-T SG17 | * noted | * (none) |
| * S3-193953 |  | * LS on SG17 new work item X.nsom-sec “Security requirements and architecture for network slice orchestration and management” | * ITU-T SG17 | * noted | * (none) |
| * S3-193954 |  | * LS on status of draft Recommendation ITU-T Q.SR-Trust “Signalling requirements and architecture for interconnection between trustable network entities” | * ITU-T SG11 | * noted | * (none) |
| * S3-193955 |  | * LS on SG11 activities related to improvement of the SS7 security including for digital financial services | * SP-190586 | * noted | * (none) |
| * S3-193956 |  | * LS on SUCI computation from an NSI | * CP-192262 | * replied to | * S3-194548 |
| * S3-193957 |  | * N9HR Regulatory Obligations | * S3i190548 | * noted | * (none) |
| * S3-193958 |  | * LS on security consideration of performance measurement function protocol | * C1-196940 | * postponed | * ???? |
| * S3-194426 |  | * Forwarding of Reply LS on GUTI allocation for 5G CIoT | * C1-198560 | * noted | * (none) |
| * S3-194433 |  | * Reply LS on how the IWF obtains key material for interworking group and private communications | * S6-192194 | * postponed | * (none) |
| * S3-194434 |  | * LS on Application Architecture for enabling Edge Applications | * S6-192399 | * noted | * (none) |
| * S3-194435 |  | * LS on native 5G NAS security context activation | * C1-199003 | * postponed | * (none) |
| * S3-194436 |  | * LS on GUTI allocation for MT-EDT in 5G CIoT | * C1-199005 | * noted | * ???? |
| * S3-194437 |  | * LS on Use of 3gpp-Sbi-Target-apiRoot header in HTTP requests from NFs to SEPP | * C4-195375 | * replied to | * S3-194453 |
| * S3-194438 |  | * Reply LS on GTP Recovery Counter & GSN node behaviour | * C4-195518 | * noted | * (none) |
| * S3-194439 |  | * LS on ARPF in UDICOM | * C4-195553 | * postponed | * (none) |
| * S3-194440 |  | * LS on usage of IMSI during 3GPP based authentication | * C4-195574 | * replied to | * S3-194454 |
| * S3-194441 |  | * LS on user identity when 5G-AKA or EAP AKA’ is used for SNPN | * C6-190468 | * replied to | * S3-194455 |
| * S3-194534 |  | * 256 bit algorithm candidates | * ETIS SAGE | * postponed | * (none) |
| * S3-194554 |  | * Reply LS on Sending CAG ID in NAS layer | * R3-197591 | * replied to | * S3-194559 |

### C2: Outgoing liaison statements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Document | Title | To | Cc | reply to i/c LS |
| * S3-194447 | * Reply LS\_on\_CHO key derivation | * RAN2 | * RAN3 | * S3-193934 |
| * S3-194450 | * LS reply to RAN WG3 LS on security for multi-CU-UP connectivity | * RAN3 | * - | * S3-193942 |
| * S3-194452 | * Reply LS on UP gateway function on the N9 interface | * SA2 | * - | * S3-193949 |
| * S3-194453 | * Reply to: LS on Use of 3gpp-Sbi-Target-apiRoot header in HTTP requests from NFs to SEPP | * CT4 | * - | * S3-194437 |
| * S3-194454 | * Reply to: LS on usage of IMSI during 3GPP based authentication | * CT4 | * SA2,CT1 | * S3-194440 |
| * S3-194455 | * Reply to: LS on user identity when 5G-AKA or EAP AKA’ is used for SNPN | * CT6,SA2,CT1 | * - | * S3-194441 |
| * S3-194456 | * Reply to: 256 bit radio interface algorithm performance | * ETSI SAGE | * - | * S3-193950 |
| * S3-194482 | * Reply to: Reply LS on RRC Connection Reestablishment for CP for NB-IoT connected to 5GC | * SA2 | * RAN2,CT4,CT1,RAN3 | * S3-193948 |
| * S3-194488 | * Reply LS on Handling of UE radio network capabilities in 4G and 5G | * RAN2 | * RAN3, SA2 | * S3-193938 |
| * S3-194548 | * Reply LS on SUCI computation from an NSI | * CT, SA1, SA2, CT1, CT4,CT6 | * SA | * S3-193956 |
| * S3-194559 | * Reply to: Reply LS on Sending CAG ID in NAS layer | * RAN3,RAN2 | * CT1 | * S3-194554 |
| * S3-194567 | * LS on SECAM Accreditation for Virtualised Network Products (VNPs) | * GSMA SECAG | * - | * - |
| * S3-194603 | * Reply to: LS on IANA assigned values for mission critical | * CT1 | * - | * S3-193926 |
| * S3-194611 | * LS to CT1 on 3rd ETSI MCX Remote Plugtest | * CT1 | * SA6 | * - |
| * S3-194658 | * LS on PC5 unicast and groupcast security protection | * SA2 | * RAN2 | * - |
| * S3-194674 | * LS on deleting invalid autnentication results in UDM | * CT4 | * - |  |
| * S3-194680 | * LS on resynchronization | * ETSI SAGE | * - |  |

## Annex D: List of agreed/approved new and revised Work Items

|  |  |  |  |
| --- | --- | --- | --- |
| Document | Title | Source | new/revised |
| * S3-194445 | * New WID for User Plane Gateway Function for the Inter-PLMN Security | * Juniper Networks | * WID new |
| * S3-194468 | * New WID on eV2X security | * LG Electronics Inc. | * WID new |
| * S3-194525 | * New WID on Security Aspects of PARLOS | * SPRINT Corporation | * WID new |
| * S3-194527 | * New WID: Work Item on Security Assurance Specification for IMS | * Huawei, Hisilicon | * WID new |
| * S3-194528 | * New WID on 3GPP profiles for cryptographic algorithms and IETF protocols | * Ericsson | * WID new |
| * S3-194600 | * Update to 5G\_eSBA WID | * Nokia, Nokia Shanghai Bell | * WID revised |

## Annex E: List of draft Technical Specifications and Reports

|  |  |  |  |
| --- | --- | --- | --- |
| Document | Spec | vers | Doc title |
| * S3-194385 | * 33.845 | * 0.1.0 | * Updated TR33.845 - includes docs agreed at SA3#95 Adhoc |
| * S3-194489 | * 33.861 | * 1.5.0 | * draft TR 33.861 |
| * S3-194516 | * 33.855 | * 1.9.0 | * Draft TR 33.855 |
| * S3-194543 | * 33.813 | * 0.8.0 | * Draft TR 33.813 |
| * S3-194551 | * 33.819 | * 1.4.0 | * Draft TR 33.819 |
| * S3-194566 | * 33.824 | * 0.6.0 | * Draft TR 33.824 |
| * S3-194612 | * 33.818 | * 0.6.0 | * Draft TR 33.818 |
| * S3-194624 | * 33.848 | * 0.5.0 | * Draft TR 33.848 |
| * S3-194626 | * 33.836 | * 0.5.0 | * Draft TR 33.836 |
| * S3-194630 | * 33.434 | * 0.1.0 | * Draft TR 33.434 |
| * S3-194634 | * 33.935 | * 0.2.0 | * Draft TR 33.935 |
| * S3-194635 | * 33.835 | * 1.2.0 | * Draft TR 33.835 |
| * S3-194640 | * 33.535 | * 0.2.0 | * Draft TS 33.535 |
| * S3-194663 | * 33.845 | * 0.2.0 | * Draft TR 33.845 |
| * S3-194672 | * 33.853 | * 0.7.0 | * Draft TR 33.853 |
| * S3-194676 | * 33.846 | * 0.5.0 | * Draft TR 33.846 |
| * S3-194684 | * 33.809 | * 0.8.0 | * Draft TR 33.809 |

## Annex F: List of participants

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| TITLE | Family Name | Given Name | Employer Organization | Employer Category Code | Organization Represented | Organization Represented Category Code |
| Mr. | Abdul Latheef | Fasil | Samsung R&D Institute India | TSDSI | Samsung Electronics Polska | ETSI |
| Mr. | Ahmad | Saad | InterDigital, Inc. | ETSI | InterDigital Belgium. LLC | ETSI |
| Mr. | Ai | Ming | CATT | ETSI | GOHIGH DATA NETWORKS TECH. | CCSA |
| Ms. | Andersdotter | Amelia | ARTICLE19 | ETSI | ARTICLE19 | ETSI |
| Mr. | Askerup | Anders | Hewlett-Packard Enterprise | ETSI | Hewlett-Packard Enterprise | ETSI |
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| Mr. | Baskaran | Dhivagar | Samsung R&D Institute India | TSDSI | Samsung Electronics Romania | ETSI |
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| Mr. | Bleckert | Peter | Ericsson LM | ETSI | Ericsson France S.A.S | ETSI |
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| Mr. | Buckley | Adrian | vivo Mobile Communication Co., | CCSA | vivo Mobile Communication Co., | CCSA |
| Mr. | Busin | Ake | Ericsson LM | ETSI | Ericsson LM | ETSI |
| Mr. | Bykampadi | Nagendra | Nokia France | ETSI | Nokia Denmark | ETSI |
| Mr. | Cano Soveri | Mirko | ETSI | ETSI | ETSI | ETSI |
| Mr. | Canterbury | Mark | Tencastle Limited | | National Technical Assistance | ETSI |
| Mrs. | Carrion | Inma | Ruckus | ETSI | CommScope Technologies AG | ETSI |
| Mr. | Castagno | Mauro | TELECOM ITALIA S.p.A. | ETSI | TELECOM ITALIA S.p.A. | ETSI |
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| Mr. | Cheng | Hong | Qualcomm Incorporated | ATIS | Qualcomm CDMA Technologies | ETSI |
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| Mr. | Chun | SungDuck | LG Electronics France | ETSI | LG Electronics Finland | ETSI |
| Mr. | Cichonski | Jeffrey | NIST | ATIS | NIST | ATIS |
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| Miss | Driscoll | Florence | NCSC | ETSI | NCSC | ETSI |
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| Mr. | Gamishev | Todor | Orange | ETSI | Orange Spain | ETSI |
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| Mr. | Pica | Francesco | Qualcomm Incorporated | ATIS | Qualcomm Finland RFFE Oy | ETSI |
| Mr. | Prochaska | Dean | FirstNet | ATIS | FirstNet | ATIS |
| Mr. | Qi | Minpeng | China Mobile Com. Corporation | CCSA | China Mobile Com. Corporation | CCSA |
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| Mr. | Sällberg | Krister | Ericsson LM | ETSI | Ericsson Hungary Ltd | ETSI |
| Mr. | Schumacher | Greg | SPRINT Corporation | ETSI | SPRINT Corporation | ETSI |
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| Mr. | Shan | Changhong | Intel Corporation (UK) Ltd | ETSI | Intel Korea, Ltd. | TTA |
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| Mr. | Shitomi | Takuya | NHK | ARIB | NHK | ARIB |
| Mr. | Shrestha | Bharat | Intel Corporation (UK) Ltd | ETSI | Intel Finland Oy | ETSI |
| Mr. | Sirotkin | Sasha | Intel Corporation (UK) Ltd | ETSI | Intel Russia A/O | ETSI |
| Dr. | Son | Jungje | Samsung R&D Institute UK | ETSI | Samsung Research America | ATIS |
| Mr. | Song | Yongsoo | KRRI | TTA | KRRI | TTA |
| Dr. | Speicher | Sebastian | Qualcomm Wireless GmbH | ETSI | Qualcomm Technologies Int | ETSI |
| Mr. | Starsinic | Michael | InterDigital, Inc. | ETSI | Convida Wireless | ETSI |
| Mr. | Stojanovski | Saso | Intel Deutschland GmbH | ETSI | Intel K.K. | ARIB |
| Dr. | Sun | Tao | China Mobile Research Inst. | | China Mobile M2M Company Ltd. | CCSA |
| Mr. | Tamura | Toshiyuki | NEC Europe Ltd | ETSI | NEC Corporation | TTC |
| Mr. | Tangudu | Narendranath Durga | Samsung R&D Institute India | TSDSI | Samsung Electronics Czech | ETSI |
| Mr. | Toobe | Jens | BDBOS | ETSI | BDBOS | ETSI |
| Mr. | Toor | Gurbakshish Singh | TD Tech Ltd | CCSA | Huawei Technologies France | ETSI |
| Mr. | Tossou | Bruno | Orange | ETSI | Orange UK | ETSI |
| Ms. | Trakinat | Jean | T-Mobile USA Inc. | ATIS | T-Mobile USA Inc. | ATIS |
| Dr. | Vanderveen | Michaela | BlackBerry UK Limited | ETSI | BlackBerry UK Limited | ETSI |
| Mr. | Venkataraman | Vijay | Apple Portugal | ETSI | Apple Portugal | ETSI |
| Mr. | Vujcic | Dragan | IDEMIA | ETSI | IDEMIA | ETSI |
| Dr. | Wan | Tao | CableLabs | ETSI | CableLabs | ETSI |
| Miss | Wang | Dan | China Mobile Research Inst. | | China Mobile (Hangzhou) Inf. | CCSA |
| Dr. | Wang | Hucheng | CATT | CCSA | Datang Linktester Technology | CCSA |
| Mr. | Whorlow | Colin | NCSC | ETSI | HOME OFFICE | ETSI |
| Dr. | Wilson | Kelce | Anemone Technology | ETSI | Anemone Technology | ETSI |
| Mr. | Wong | Marcus | Futurewei Technologies | ATIS | Futurewei Technologies | ATIS |
| Mr. | Woodward | Tim | Motorola Solutions Danmark A/S | ETSI | Motorola Solutions UK Ltd. | ETSI |
| Mr. | Xie | Zhenhua | vivo Mobile Communication Co., | CCSA | vivo Mobile Communication (S) | CCSA |
| Miss | Xu | Hui | CATT | ETSI | CICT | CCSA |
| Mr. | Xu | Yang | Guangdong OPPO Mobile Telecom. | CCSA | Dongguan OPPO Precision Elec. | CCSA |
| Mr. | Yoo | Mike | Johns Hopkins University APL | ATIS | Johns Hopkins University APL | ATIS |
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| Miss | Zhang | Ling | CATT | ETSI | Datang Mobile Com. Equipment | CCSA |
| Mr. | Zhou | Wei | CATT | CCSA | CATT | CCSA |
| Mr. | Zhu | Jinguo | ZTE Corporation | CCSA | ZXNE | CCSA |
| Mr. | Zisimopoulos | Haris | Qualcomm Technologies Int | ETSI | Qualcomm Austria RFFE GmbH | ETSI |
| Dr. | Zugenmaier | Alf | NTT DOCOMO INC. | TTC | DOCOMO Communications Lab. | ETSI |

## Annex G: List of future meetings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Title | Start date | End date (OP) | Town | Country | Reference |
| * SA3#98 | * 2020-02-10 | * 2020-02-14 | * Sophia Antipolis | * FR | * S3-98 |
| * SA3#76-BIS LI | * 2020-03-02 | * 2020-03-04 | * Sophia Antipolis | * FR | * S3-ah-36706 |
| * SA3#77-LI | * 2020-04-21 | * 2020-04-24 | * US | * US | * S3-ah-36438 |
| * SA3#99 | * 2020-05-11 | * 2020-05-15 | * Dubrovnik | * HR | * S3-99 |
| * SA3#100 | * 2020-07-13 | * 2020-07-17 | * Bath | * UK | * S3-100 |
| * SA3#78-LI | * 2020-07-14 | * 2020-07-17 | * Berlin | * DE | * S3-ah-36707 |
| * SA3#79-LI | * 2020-10-20 | * 2020-10-23 | * US | * US | * S3-ah-36851 |
| * SA3#101 | * 2020-11-02 | * 2020-11-06 | * TBD |  | * S3-101 |