**3GPP TSG-SA3 Meeting #107-e *S3-221163-r2***

e-meeting, 16 – 20 May 2022

**Title: LS on handling of the modification policy in the IPX and receiving SEPP**

**Response to:**

**Release: Rel-15**

**Work Item: 5GS\_Ph1-SEC**

**Source: SA3**

**To: CT4**

**Cc:**

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**Attachments:** NONE

# 1 Overall description

SA3 would like to inform that modification policy handing in the IPX and receiving SEPP is not aligned between SA3 and CT4.

SA3 specified that the modification handling is performed on the clearTextEncapsulationMsg by the IPX, and pSEPP, i.e. TS 33.501, 13.2.4.5.2, IPX side:

*…The first intermediary shall parse the encapsulated request (i.e. the* ***clearTextEncapsulationMsg*** *in the dataToIntegrityProtect block) and determine which changes are required. The first intermediary creates an Operations JSON patch document to describe the differences between received and desired message, using the syntax and semantic from RFC 6902 [64], such that, when applying the JSON patch to the encapsulated request the result will be the desired request. If no patch is required, the operations element is null.*

TS 33.501, 13.2.4.8, pSEPP side:

*- The pSEPP updates the clearTextEncapsulationMessage block in the message by replacing the references to the dataToIntegrityProtectAndCipher block with the referenced decrypted values from the dataToIntegrityProtectAndCipher block.*

*- The pSEPP then verifies IPX provider updates of the attributes in the modificationsArray. It checks whether the modifications performed by the intermediaries were permitted by policy.*

*The pSEPP further verifies that the PLMN-ID contained in the message is equal to the "Remote PLMN-ID" in the related N32-f context.*

*- The pSEPP updates the modified values of the attributes in the* ***clearTextEncapsulationMessage*** *in order.*

CT4 specified that the modification handling is performed on the formed original JSON request / response body by the IPX and pSEPP, i.e. TS 29.573, 5.3.21, pSEPP side:

*5. For each entry in the "modificationsBlock" of the received message:*

*- First verify the integity protection of that entry using the keying material applicable for the IPX that inserted that block (using the "identity" IE in the "modificationsBlock");*

*- Identify the modifications policy exchanged during the parameter exchange procedure with the sending SEPP if the IPX that inserted the modificationsBlock is from the sending SEPP side; else identify the modifications policy applicable for the IPX based on local configuration;*

*- Check if the inserted modifications are as per the identified modifications policy;*

*- Apply the modifications as a JSON patch* ***over the formed original JSON request / response body from step 4.***

Misalignment between SA3 and CT4 causes possibly different implementation and interoperability issues. Therefore, SA3 would like CT4 to review and indicate whether the implementation in CT4 is workable or not.

If the modification handling defined in CT4 is workable, please clarify the detailed procedure for the IPX and pSEPP. In specific, how is it possible for an IPX to construct a modification instruction targeting IEs outside the JSON request / response body, e.g.:

* a URI\_PARAM IE (ref: TS 29.573 Table Enumeration: IeLocation), that is, a URI path IE or a URI query IE in the request URI of the reconstructed message
* a HEADER IE, that is,HTTP/2 header of the reconstructed message
* a MULTIPART\_BINARY IE, that is,binary part of a multipart/related reconstructed message

If the modification handling defined in CT4 is not workable, SA3 kindly request CT4 to align all impacted stage 3 specifications with SA3 specification.

Furthermore, SA3 kindly asks to get also informed if CT4 identifies any further issue with SA3 mechanism after this review.

# 2 Actions

**To CT4**

**ACTION:** SA3 kindly asks CT4 to take the above information into consideration and provide the necessary feedback as soon as possible.

# 3 Dates of next TSG SA WG 3 meetings

SA3#107-e-Bis 27 June – 01 July 2022 Electronic meeting

SA3#108-e 22-26 August 2022 Electronic meeting