3GPP TSG-CT WG3 Meeting #130 C3-234xxx

**Xiamen, China, –**

**Title: LS on Clarification related to Network Slicing enhancement**

**Response to: NA**

**Release: Rel-18**

**Work Item: eNS\_Ph3**

**Source:** **3GPP CT3**

**To:** **3GPP SA2**

**Cc: 3GPP CT1, 3GPP CT4**

**Contact person: Rajesh Babu Natarajan**

**rajesh underscore babu dot natarajan at nokia dot com**

**Send any reply LS to: 3GPP Liaisons Coordinator,** [**mailto:3GPPLiaison@etsi.org**](mailto:3GPPLiaison@etsi.org)

**Attachments:** None

# 1 Overall description

In the current TS 23.503, clause 6.1.3.5:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Network Slice Replacement | The SMF reports the event of change between S-NSSAI and Alternative S-NSSAI to PCF when the SMF determines that the PDU Session and SM Policy Association can be retained. The SMF provides Alternative S-NSSAI when the PDU Session is transferred from S-NSSAI to Alternative S-NSSAI. | Added | PCF |  |

According to the LS reply to SA4 in [S2-2309692](https://www.3gpp.org/ftp/tsg_sa/WG2_Arch/TSGS2_158_Goteborg_2023-08/Docs/S2-2309692.zip), SA2 indicates that the network slice replacement procedure should be transparent to the Application Function and Application Provider:

Q3. Are the Application Function and the Application Provider notified when the network slice replacement procedure is invoked by the 5G System?

Answer: No. SA2 believes that the network slice replacement procedure should be transparent to the Application Function and the Application Provider.

**Question 1:** According to the above, when the original S-NSSAI is replaced by an Alternative S-NSSAI, should both the original S-NSSAI and the Alternative S-NSSAI be provided by the SMF to the PCF and should both data be stored in both PCF and BSF so that the PCF/BSF can identify the PDU session/PCF associated to the AF request?

**Question 2**: For the case where the original S-NSSAI is recovered and then the PDU session is transferred back to the original S-NSSAI, what information (if any) is expected that the SMF provides to the PCF and then the PCF to the BSF?

**Question 3**: Can there be a case where the network may assign same “Alternative S-NSSAI” for different initial S-NSSAI? (e.g. S-NSSAI 1 and S-NSSAI 2 replaced with S-NSSAI 3 as the alternative S-NSSAI). If yes, how should that case be reported to the PCF and then to the BSF?

**Question 4:** When the Alternative S-NSSAI becomes unavailable and the Original S-NSSAI is not recovered yet, can an additional Alternative S-NSSAI be selected? In this case, how should that be reported to the PCF and then to the BSF?

In the current TS 23.501, clause 5.15.19:

- If the PCF detects that an S-NSSAI becomes unavailable or congested for a UE (e.g. based on OAM or NWDAF analytics output), it sends access and mobility related policy notification to the AMF. The notification may include an Alternative S-NSSAI which can be used by the AMF to replace the S-NSSAI. The PCF notifies the AMF when the S-NSSAI is available again for the UE.

**Question 5**: Is the above requirement applicable only in case of non-roaming scenario? Or possible during roaming LBO scenario?

In the current TS 23.501, clause 5.15.19:

Based on the notification above from NSSF or PCF or OAM, the AMF may determine that an S-NSSAI is to be replaced with Alternative S-NSSAI. For roaming case, the AMF may receive network slice availability notification of the HPLMN S-NSSAI from NSSF in the HPLMN via NSSF in VPLMN, to trigger the Network Slice Replacement of the HPLMN S-NSSAI as described in clause 5.15.6.

**Question 6**: Is the above requirement applicable only in case of Home Routed Roaming scenario?

# 2 Actions

**To SA2**

**ACTION:** CT3 kindly asks SA2 to answer the above questions and update the SA2 specifications if necessary.

# 3 Dates of next TSG CT WG 3 meetings

CT3 Meeting calendar can be found at:

<https://www.3gpp.org/dynareport?code=Meetings-C3.htm>