**3GPP TSG-SA/WG2 Meeting #141e *S2-2007369***

**Elbonia, 12 – 23 Oct. 2020, Electronic meeting**

**Source: ZTE**

**Title: KI#4 evaluation and conclusion**

**Document for: Agreement**

**Agenda Item: 8.4**

**Work Item / Release: FS\_eNS\_Ph2 / Rel-17**

***Abstract of the contribution:*** *This contribution* *proposes evaluation for KI#4*

# 1 Discussion

The following is the evaluation for each solution

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| --- | --- | --- |
| 8 | AMF and O&M based solution | This solution depends on KI#1 and KI#2 conclusion and cannot be evaluated as standalone. |
| 9 | Monitoring multiple quotas of number of UEs/PDU Sessions per S-NSSAI at NWDAF | This solution depends on KI#1 and KI#2 conclusion and cannot be evaluated as standalone. |
| 18 | Proactive Slice Quota Management in AMF | This solution depends on KI#1 and KI#2 conclusion and cannot be evaluated as standalone. |
| 23 | Network slice quota event notification | This solution depends on KI#1 and KI#2 and KI#3 conclusion and cannot be evaluated as standalone. |
| 33 | Event notification of Slice SLA attributes | This solution depends on KI#1 and KI#2 and KI#5 conclusion and cannot be evaluated as standalone. |
| 34 | AF interaction for event notification | In this solution there are multiple Slice PCFs and BSF is used for Slice PCF discovery and selection. The solution describe the Slice PCF discovery via BSF in a scenario where there is a dedicated (or logically separated) slice PCF to handle the overall slice quota management when multiple S-NSSAIs are subject to quota management. |
| 43 | UE Slice Maximum Bit Rate related event notification | This solution depends on KI#3 conclusion. This solution proposes the NEF or PCF subscribes the UE SMBR reached event from AMF and the AMF notifies the PCF or NEF. It is unclear why this notification is needed because if the UE SMBR is reached the RAN will reject the establishment of GBR QoS flow and the PCF/AF will get notified anyway. |

# 2 Proposal

It is proposed to agree the changes:

**/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Start of Change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/**

## 7.x Evaluation on solutions of KI#4

High level aspects of the solutions:

- Solution 8, 9, 18, 23, 33 and 43 depend on the conclusion of KI#1, KI#2 or KI#3 or KI#5.

- Sol#8 uses O&M as a centralized entity. However, the solution do not specify the interaction between AMF and O&M and interaction between O&M and AF. It is unclear how could AF get the event notification and hence, it does not fulfil the requirements of KI#4. Also, it is not practically easy to use Sol#8 in roaming and multi-vendor environments.

- Sol#9 uses NWDAF as a centralized NF. The NWDAF manages event subscription/notification for network slice quota from the AF, and sends an event notification to the AF based on the data collected from AMFs and optionally UDMs.

- Sol#18, Sol#23, Sol#33 and Sol#34 uses a centralized NF. Solutions describes the logical functionality of the centralized NF. Solutions have been open-ended on the location of the new functionalities, i.e., indicated that the new functionality can be supported by a new NF or it can be co-located within the existing 5GC NF.

- In Solution 34 there are multiple Slice PCFs and BSF is used for Slice PCF discovery and selection. The Slice PCF supports per S-NSSAI event subscription/notification. The solution describe the Slice PCF discovery via BSF in a scenario where there is a dedicated (or logically separated) slice PCF for each S-NSSAI to handle the overall per S-NSSAI slice quota management when multiple S-NSSAIs are subject to quota management.

- Solution 43 proposes the NEF or PCF subscribes the UE SMBR reached event from AMF and the AMF notifies the PCF or NEF. It is unclear why this notification is needed because if the UE SMBR is reached the RAN will reject the establishment of GBR QoS flow and the PCF/AF will get notified anyway. Sol#43 has RAN impact.

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# 9 Conclusions

9 .x Conclusion for Key Issue #4

For Key Issue #4 (Support for network slice quota event notification in a network slice),

* The centralized 5GC NF (Control Plane NF within the 5G Core Network) has an interface with AF (optionally via NEF) and manages event subscription/notification from the AF for all network slice related quota such as number of UEs, number of PDU sessions and limitation of data rate per network slice.
* The centralized 5GC NF determines whether event notification triggering condition is met based on data received from other 5GC NFs via service based interface.

NOTE: Key issue #4 depends on other KIs for quota management. Therefore, the centralized 5GC NF and the NF service(s) to receive data from other 5GC NFs will be determined based on other conclusion of KI#1, KI#2, KI#3 and KI#5 in a subsequent meeting.

**/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*End of Change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/**