**SA WG2 Meeting #140-e S2-2xxxxx**

**August 19th -September 2nd 2020, Online (revision of S2-20xxxx)**

**Source: Nokia, Nokia Shanghai Bell**

**Title: CC#4 discussion of S2-2005337**

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*Abstract of the contribution: xxx*

# **Justification of why we need this for KI 1,2**

Today the decision of when a UE triggers a registration to a network slice or decides to establish a PDU session is left to UE implementation.

Taking for example the case of Registration to a network slice, different criteria have been observed in UE implementations:

1. IF the S-NSSAI is in configured NSSAI, then UE registers; or
2. IF the S-NSSAI is required based on URSP rules by an APP, then the UE registers.

And, for deregistration:

1. Never deregister if the S-NSSAI is in configured NSSAI; or
2. IF the S-NSSAI is no longer required based on URSP rules by an APP, then the UE deregisters the S-NSSAI immediately; or
3. IF the S-NSSAI is no longer required based on URSP rules by an APP, then the UE deregisters the S-NSSAI after an implementation dependent timer.

Let's assume a customer of a corporate slice and has 10000 employees that use normally eMBB but occasionally access enterprise slice.

let's say that at any point in time 5000 users are active on average (have the company phone turned on) then these users use statistically the corporate slice with likelihood 50%

if the UE behaviour is not known, it may be all the UEs get connected to the enterprise slice as soon as they are turned on: so the enterprise needs on average 5000 simultaneous UEs supported and that is what they will need to buy from the service provider.

If instead the UEs all activate the slice only upon usage, the enterprise will only need 2500 simultaneous connection on average.

**This is to show that the UE behaviour is relevant to quota management solutions.** This will enable the operator to tell the customer more predictably the number of connections that should satisfy their needs or customers. Today this is NOT possible as the UE behaviour is not known. During email discussion some UE vendors explicitly stated that today UEs would request all S-NSSAIs

The deregistration hysteresis aspects are not strictly related to the KI but are useful pieces of information that should be added to e.g. reduce the signalling UEs generate when users switch apps inside the slice.

# **conclusion**

**With this in mind, we are strongly supporting the case for adopting this solution in S2-2005337.**