**3GPP TSG-WG SA2 Meeting #153e *S2-220xxxx***

**E-meeting, October 10-17, 2022 (revision of S2-220xxxx)**

**Source: InterDigital Inc.**

**Title: KI #1, Conclusion Update**

**Document for: Approval**

**Agenda Item: 9.22**

**Work Item / Release:** **FS\_eUEPO / Rel-18**

**Abstract:** *This contribution updates the Key Issue #1 Conclusion.*

# 1. Discussion

This contribution addresses the following editor’s note from the Key Issue #1 conclusion.

Editor's note: It is FFS whether a new re-evaluation trigger (e.g., change of PLMN/Route Selection Validation Criteria or an indication in the URSP Rule) is needed when VPLMN specific URSP Rules or VPLMN specific RSDs are used.

 Section 6.6.2.3, TS 23.503 lists the following re-evaluation conditions:

The UE receives the updated URSP rules and (re-)evaluates their validities in a timely manner when certain conditions are met, for example:

- the URSP is updated by the PCF;

- the UE moves from EPC to 5GC;

- change of Allowed NSSAI or Configured NSSAI;

- change of LADN DNN availability;

- UE registers over 3GPP or non-3GPP access;

- UE establishes a connection with a ProSe Layer-3 UE-to-Network Relay;

- UE establishes connection to a WLAN access.

The re-evaluation triggers listed above that are highlighted in yellow are good examples of cases where a UE may re-evaluate URSP rules because services are becoming available or are becoming unavailable. For example, a re-evaluation may be triggered by the UE receiving new LADN Information, a new slice being allowed, or a slice being removed from the Allowed NSSAI.

The Key Issue #1 conclusion introduces **VPLMN specific URSP Rules** which can be used to cause the UE to route traffic to an LBO PDU Session when the UE is in the VPLMN. When the UE leaves the VPLMN, the ability to use the LBO PDU Session is lost. Similarly, when the UE enters the VPLMN, access to the VPLMN’s Data Network(s) becomes available. It is important to consider that some services (e.g. edge computing) require timely re-location of application layer sessions from one data network to another (i.e. closer) data network. Timely re-location of an application layer session from one data network to a newly available (i.e. closer) data network is not possible until the UE detects the availability of the new data network. Thus, it is proposed add the following sentence to the key issue #1 conclusion to ensure that the UE accounts for the availability (or un-availability) of VPLMN services in a timely manner:

When the UE leaves a VPLMN for which it has applied VPLMN specific URSP Rules, it (re-)evaluates URSP rule validities in a timely manner. When the UE enters a VPLMN for which it has VPLMN specific URSP Rules, it (re-)evaluates URSP rule validities in a timely manner.

This p-CR also deletes the related editor’s note and make some editorial fixes.

The following changes are proposed for TR 23.700-85 v0.4.0.

\* \* \* \* 1st change \* \* \* \*

## 8.1 Conclusions on KI#1

### 8.1.1 General

The following definitions will be included as part of the normative work on URSP Rules in roaming:

**VPLMN specific URSP Rules:** A VPLMN specific URSP Rule is applicable when the UE is registered in the VPLMN only. VPLMN specific URSP rules are provided from the HPLMN and contain, based on agreements with VPLMN, the Network Slice Selection, DNN Selection, Time and Location criteria. It is provided to the UE to route traffic on a PDU Session to a SMF and UPF in the VPLMN.

Editor's note: It is FFS whether the definition of VPLMN specific URSP Rules needs to be updates to allow for the case where the VPLMN specific URSP Rule includes RSDs that apply in both the HPLMN and VPLMN.

**HPLMN specific URSP Rules:** A HPLMN specific URSP Rule is applicable either when the UE is registered in VPLMN or HPLMN. It contains HPLMN specific values on the Network Slice Selection, DNN Selection, Time and Location criteria. It is provided to the UE to route traffic on a PDU Session to a SMF and UPF in the HPLMN.

### 8.1.2 Conclusions on the how to identify PLMN specific URSP Rules

To enable the PCF to provide and the UE to identify the PLMN specific URSP Rules, the following conclusion principles apply:

- VPLMN ID is provided to UE with the URSP rule.

Editor's note: How to provide the VPLMN ID to UE with the URSP rule is FFS.

When the UE leaves a VPLMN for which it has applied VPLMN specific URSP Rules, it (re-)evaluates URSP rule validities in a timely manner. When the UE enters a VPLMN for which it has VPLMN specific URSP Rules, it (re-)evaluates URSP rule validities in a timely manner.

### 8.1.3 Conclusions on which PLMN determines the VPLMN specific URSP Rules

The scenario where the network provides the UE with URSP rules applicable in the VPLMN It is proposed to adopt the following interim conclusion principles:

- The H-PCF provides VPLMN specific URSP Rules to the UE.

- The H-PCF generates VPLMN specific URSP rules by taking Service Parameters either from V-PCF or the V-AF in.

Editor's note: It is FFS which solution is taken for normative specification, H-PCF generating VPLMN specific URSP rules based on service parameters provided by V-PCF or based on URSP guidance provided by the AF from VPLMN for the case when the H-PLMN generates the VPLMN specific URSP rules.

\* \* \* \* End of changes \* \* \* \*