**3GPP TSG-CT WG4 Meeting #99C4-204249**

**E-Meeting, 18th – 28th Auguest 2020**

**Source: China Telecom**

**Title: KI on UPF Support for Multiple Network Slice Sharing**

**Spec: 3GPP TR 29.820**

**Agenda item: 5.1**

**Document for: Agreement**

**1. Introduction**

Add key issue #x in clause 5.1.

**2. Reason for Change**

This KI is to address the requirement in the following scenario:

Scenario#4: multiple UP functions are controlled by a set of CP functions, where the UP functions are shared by several network slices..

**3. Proposal**

It is proposed to agree the following changes to 3GPP TR 29.820.

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

5.2 Key Issue #x: UPF support for multiple network slice sharing

5.2.1 Description of the use case

In 5G system, multiple network slices with different functions and performance requirement may have different control plane functions, while they share the same UPF. Therefore, the UPF is expected to serve PDU sessions with different QoS and network separation requirements (in corresponding to different network slice), and the UPF will allocate different user plane resource (e.g. CPU/Memory/bandwidth/delay budget) to those PDU session.

5.2.2 Key issue definition

 In current specifications, the S-NSSAI transmitted on the N4 interface is only used for performance measurement,, when UPF are shared by several network slices(e.g. eMBB slice and IoT slice), UPF needs to know, which slice the PFCP session (PDU session)is pertaining to..

In spite of the fact that the Network Instance ID transmitted on N4 can provide the UPF with information about the network slice of the PDU session, the definition of Network Instance ID is not clearly in the current specifications, and this approach also has some limitations, e.g. when an operator would like to use the same Network Instance ID for different network slices.

In order to solve the dilemma described above, this key issue aims at addressing following aspects for scenario 4:

1. Study possible protocol enhancement over PFCP to enable a UPF to support multiple network slices.

2. Study the potential missing functionalities to enable an UPF to support multiple network slices.

\* \* \* End of Changes \* \* \* \*