**3GPP TSG-SA WG2 Meeting #160 S2-231xxxx**

**Chicago, USA, November 13 – 17, 2023**

**Source: CATT?, LG Electronics?, NTT DOCOMO?, China Mobile?, Lenovo?, Samsung, Rakuten Mobile Inc.?, Nokia?, Nokia Shanghai Bell?, ZTE?**

**Title: Key issue for WT#2: Subscription and policy control to enable energy efficiency as a service criteria**

**Document for: Approval**

**Agenda Item: 19.4**

**Work Item / Release: FS\_EnergySys / Rel-19**

*Abstract of the contribution: The contribution proposes the key issue for WT#2 on subscription and policy control to enable energy efficiency as a service criteria.*

**1. Introduction**

The SID on 5GS Enhancement for Energy Efficiency and Energy Saving (SP-231192) includes the WT#2 as follows:

- WT #2. Study enhancement for subscription and policy control to enable network energy savings as service criteria.

The following requirements related to WT#2 are specified in TS 22.261 clause 6.15a:

“Energy efficiency as a service criteria allows services to be delivered with diverse energy efficiency and energy consumption policies.”

“Subject to operator’s policy, the 5G system shall support subscription policies that define a maximum energy credit limit for services without QoS criteria.

Subject to operator’s policy, the 5G system shall support a means to associate energy consumption with charging information based on subscription policies for services without QoS criteria.

Subject to operator’s policy, the 5G system shall support a mechanism to perform energy consumption credit limit control for services without QoS criteria.

NOTE 1: The result of the credit control is not specified by this requirement.

NOTE 2: Credit control [49] compares against a credit control limit. It is assumed charging events are assigned a corresponding energy consumption and this is compared against a policy of energy credit limit. It is assumed there can be a new policy to limit energy consumption allowed.

Subject to operator’s policy, the 5G system shall support a means to define subscription policies and means to enforce the policy that define a maximum energy consumption (i.e. quantity of energy for a specified period of time) for services without QoS criteria.

NOTE 3: The granularity of the subscription policies can either apply to the subscriber (all services), or to particular services. ”

Based on the requirements, the key issue for WT#2 on enhancement for subscription and policy control to enable energy efficiency and/or energy saving as service criteria is proposed.

**2. Proposal**

It is proposed to agree the following changes to 3GPP TR 23.700-66.

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

## 5.x Key Issue #x: Subscription and policy control to enable energy efficiency and/or energy saving as a service criteria

### 5.x.1 Description

As described in TS 22.261 [8],Energy efficiency as a service criteria aims at services to be delivered with diverse energy efficiency and/or energy consumption policies and subscriptions for services where it is possible to control the energy consumption (e.g. data rate for some best effort services).

The following aspects will be studied for this key issue:

- Whether and how to enhance policies and subscriptions to support energy efficiency and energy saving, and how these can be handled and enforced in the network. This will include:

 - How and what network energy related information needs be considered for subscription and policy control

- Enhancement on system behaviour and policies to support control of energy efficiency and energy consumption

- How to support policies and subscription for different granularities of energy use control (e.g. per RAN, core network, network slice, UE, NF, PDU Session, QoS flow, specific services or all the services of a subscriber, group of UEs, etc) for the energy efficiency and/or consumption as service criteria

- Charging related enhancement on policies and subscription

- Enhacements to subscription data

NOTE 2: Charging aspects are to be addressed in coordination with in SA WG5.

NOTE 3: The study will address use cases corresponding to the identified consolidated requirements as described in clause 6.1 of TR 22.882 [5]. The possible enhancements on subscription and policy control depend on the use case. Solutions should identify related use cases which will be addressed.

NOTE 4: The potential impact of the enhancements will be evaluated to ensure not to consume more energy than expected to save.

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