**3GPP TSG-SA WG6 Meeting #42-e S6-210654**

**e-meeting, 1st – 9th March 2021 (revision of S6-210455)**

**Source: China Mobile, Huawei**

**Title: EES traffic influence at ECS**

**Spec: TS 23.558 v1.2.0**

**Agenda item: 7.6**

**Document for: Approval**

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**1. Introduction**

This contribution propose a solution about EES traffic influence at ECS.

1. **Reason for Change**

In the service provisioning procedure, ECS responds to the EEC with a list of EDN configuration information. Then, EEC establishes a PDU session with the selected EES using the given EDN information. However, when there are multiple EDNs in a DNN, for example in the deployment option A and option B, the established path only realize the message reach-ability rather than optimal path. It will result in the dissatisfaction on required quality of service of some delay-sensitive applications such as V2X.

In the PDU establish procedure, the UPF will be chosen according to DNN and slice information. For the scenario that one DNN have multiple EDNs, the EDN will be chosen according to the ECMP's policy (such as location). As a result, a detour path is established to undesired EDN. Unless user device has the information mapping the EDN and DNN, otherwise the stringent QoS will not be met.

Therefore, in order to meet user service quality requirements, a network collaboration solution is needed to help establish the best transmission path. The AF traffic influence with the DNAI(s) of the selected EES executed by ECS can help EEC visit the EES through optimal path.

1. **Proposal**

It is proposed to agree the following changes to 3GPP in TS 23.558.

\* \* \* First Change \* \* \* \*

### 6.3.4 Edge Configuration Server (ECS)

ECS provides supporting functions needed for the EEC to connect with an EES.

Functionalities of ECS are:

a) provisioning of Edge configuration information to the EEC. The Edge configuration information includes the following:

1) the information for the EEC to connect to the EES (e.g. service area information applicable to LADN); and

2) the information for establishing a connection with EESs (such as URI); and

NOTE: The ECS can be deployed in the MNO domain or can be deployed in 3rd party domain by service provider.

b) supporting the functionalities of registration (i.e., registration, update, and de-registration) for the EES(s);

c) supporting the functionalities of API invoker and API exposing function as specified in 3GPP TS 23.222 [6]; and

d) interacting with 3GPP Core Network for accessing the capabilities of network functions either directly (e.g. via PCF) or indirectly (e.g. via SCEF/NEF/SCEF+NEF).

\* \* \* Next Change \* \* \* \*

##### 8.3.3.2.x EES traffic influence at ECS

This procedure is used to influence the EES traffic as early as possible, e.g., before connecting the selected EES.

Figure 8.3.3.2.x-1 illustrates the EES traffic influence procedure at the ECS.

Pre-conditions:

1. The EEC has been pre-configured or has discovered the address (e.g. URI) of the ECS;

2. The EEC has been authorized to communicate with the ECS;



Figure 8.3.2.3-1: EES traffic influence at ECS

1. The EEC sends the EES traffic influence request to ECS to request the ECS to influence the EES traffic.

2.The ECS apply AF traffic influence with the DNAI(s) of the determined Edge Enabler Server(s), as described in 3GPP TS 23.501, clause 5.6.7.1.

3. The Edge Configuration Server sends the EES traffic influence response to the EEC if received the step 1.

\* \* \* Next Change \* \* \* \*

#### 8.3.3.X EES traffic influence request

Table 8.3.3.X-1 describes the information elements for service provisioning path influence request from the Edge Enabler Client to the Edge Configuration Server.

Table 8.3.3.X-1: Service provisioning path influence request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| EEC ID | M | Unique identifier of the EEC. |
| Security credentials | M | Security credentials resulting from a successful authorization for the edge computing service. |
| EES ID  | M | The identifier of the EES |

#### 8.3.3.Y EES traffic influence response

Table 8.3.3.Y-1 describes the information elements for service provisioning path influence response from the Edge Configuration Server to the Edge Enabler Client.

Table 8.3.3.Y.-1: Service provisioning response

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| Successful response | O | Indicates that the service provisioning request was successful. |
| Failure response | O | Indicates that the service provisioning request failed. |
| > Cause | O | Indicates the cause of service provisioning request failure. |
|  |