**3GPP TSG-SA WG6 Meeting #56 S6-23xxxx**

**Goteborg, Sweden 21st – 25th Aug 2023** **(revision of S6-23xxxx)**

**Source: Samsung**

**Title: New WID on architecture for enabling Edge Applications Phase 3**

**Document for: Approval**

**Agenda Item: 10**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: New WID on architecture for enabling Edge Applications Phase 3

Acronym: EDGEAPP\_Ph3

Unique identifier: TBD

Potential target Release: Rel-19

# 1 Impacts

{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  | X |  | X |  |
| No |  |  | X |  |  |
| Don't know | X |  |  |  | X |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
|  | Study  |
|  | Normative – Stage 1 |
| x | Normative – Stage 2 |
|  | Normative – Stage 3 |
|  | Normative – Other\* |

**\* Other = e.g. testing**

## 2.2 Parent Work Item

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| None |  |  |  |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 830032 | Study on enhancement of support for Edge Computing in 5GC | System aspects for Edge Computing (SA2) |
| 880002 | Study on Security Aspects of Enhancement of Support for Edge Computing in 5GC | Security aspects of Edge Computing (SA3) |
| 870029 | Study on enhancements of edge computing management | OAM aspects of Edge Computing (SA5) |
| 880030 | Study on charging aspects of Edge Computing | Charging aspects of Edge Computing (SA5) |
| 860006 | Architecture for enabling Edge Applications | Architecture for enabling Edge Applications (SA6) |
| 970040 | Architecture for enabling Edge Applications Phase 2 | Architecture for enabling Edge Applications Phase 2 (SA6) |

# 3 Justification

3GPP SA6 within its Rel-17 work on TS 23.558 (EDGEAPP) defined the overall application layer architecture to enable edge applications over 3GPP networks.

Rel-17 work includes fundamental features such as ECS discovery, service provisioning, EAS discovery, EEC/EAS/EES registrations, network and Edge Enabler Layer (EEL) capability exposure, service continuity planning with application context relocation (ACR) and EEC context relocation etc., along with cardinality rules, deployment options, involved relationships and mapping with ETSI MEC and GSMA Operator Platform architectures.

In Rel-18 (EDGEAPP\_Ph2), the architecture was enhanced to specify more features (such as ACR selection, enhanced service continuity planning, EAS API Exposure, application layer aspects of Roaming and Federation, edge node sharing (ENS), EDGE-5 APIs, Common EAS, dynamic EAS instantiation, bundled EASs, etc.). However, during Rel-18 work, some of the use cases, scenarios, and requirements from GSMA OPG/OPAG (e.g. as discussed in LS S6-231931 and S6-232127) were not addressed. Some of the example use cases not addressed are related to supporting multi-AC scenarios for common EAS, discovery of common EAS from federated partners, dynamic EAS instantiation in ENS scenarios, bundled EASs in federation and roaming.

Therefore, in Rel-19, the EEL architecture requires enhancements (including procedures and information flows) to consider scenarios discussed and not addressed during Rel-18 and to specify solutions for requirements from GSMA OPG/OPAG, which are not fulfilled in earlier releases.

Service continuity scenarios and procedures defined in Rel-17 and Rel-18 have become very lengthy and complex to understand from the readability perspective. Considering that in Rel-19, the service continuity scenarios and procedures are expected to be enhanced for more features, it is required to restructure the description for the service continuity scenarios and procedures and transfer them into a new specification, to improve readability.

# 4 Objective

The SA6 objectives of this work item include the following:

1) Develop Stage 2 normative technical specification enhancing edge application architecture and procedures specified in 3GPP TS 23.558 for the following aspects:

a) Enhancements to EEL to support additional scenarios for edge services via a common EAS, including:

i) Common EAS discovery and selection when multiple ACs having different AC IDs are expected to be served by a common EAS;

ii) Service continuity when service is being provided by common EAS;

iii) Discovery and selection of a common EAS from federated partners;

iv) Selection and service continuity of common EAS bundle;

b) Support discovery, selection and service continuity for bundled EASs in federation and roaming scenarios;

c) EEL operation to enable Dynamic EAS instantiation in ENS scenarios;

d) Service continuity for ENS scenarios;

2) Restructuring and transfer of service continuity scenarios and procedures to a new technical specification.

NOTE: Objective 2) will not have impacts to existing scenarios, procedures and information flows. More service continuity scenarios and procedures can be added to the new specification.

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications {One line per specification. Create/delete lines as needed} |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
| New TS | 23.abc | Service continuity for enabling Edge Applications | TSG#104 | TSG#106 | InterDigital (Michel.Roy@InterDigital.com) |

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| TS 23.558 | Enhancements to Edge Enabler Layer Architecture and procedures  | SA#106 (Dec 2024) |  |

# 6 Work item Rapporteur(s)

Hyesung Kim, Samsung, hs1207.kim@samsung.com

# 7 Work item leadership

SA6

# 8 Aspects that involve other WGs

SA2 for system aspects, SA3 for security aspects and SA5 for management aspects.

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Samsung |
| AT&T |
| ETRI |
| InterDigital |
| NTT |
| Vivo |
|  |
| Airbus ? |
| Apple ? |
|  |
| CKH IOD UK ? |
| Convida Wireless ? |
| Dish Network ? |
| Ericsson ? |
| Huawei ? |
| Intel ? |
| KPN ? |
| KT Corporation ? |
| Lenovo ? |
| Nokia? |
| Nokia Shanghai Bell? |
| Qualcomm ? |
| SK Telecom ? |
| Telefonica ? |
| Verizon UK Ltd. ? |
| Vodafone ? |
| NTT DOCOMO? |