**3GPP TSG-SA WG6 Meeting #46-e meeting S6-212739**

**15th Nov – 23rd Nov 2021, Online (Revision of S6-212521\_rev3)**

**Source: Intel, Nokia, KDDI, SKT, Huawei**

**Title: Edge Dual Deployment Considerations**

**Spec: 3GPP TR 23.700-98**

**Agenda item: 10.7**

**Document for: Approval**

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# 1 Introduction

As specified in Annex C of TS 23.558 (Rel-17), the two architectures (EDGEAPP and ETSI MEC) can be present in a single system. This pCR provides deployment considerations possible for the existence of the two architectures in a deployment environment.

**2. Reason for Change**

The study of deployment options of EDGEAPP and ETSI MEC platforms is missing in current TR 23.700-98, which can be the basis of further alignment of EDGEAPP and ETSI MEC.

The following deployment scenarios and evolution to align architecture are recognized:

1. Deployment option#1: Deployment of ETSI MEC and EDGEAPP as collocated platforms

Both EES and MEC Platform can be deployed to offer concatenated set of APIs to the application.

1. Deployment option#2: Deployment of ETSI MEC and EDGEAPP converged architecture



* 1. Evolution Option #1- Enhancement of a deployed MEP to support the functionality of EES



* 1. Evolution Option #2- Enhancement of a deployed EES to support the functionality of MEP



1. Deployment option#3: Deployment of ETSI MEC and EDGEAPP as non-collocated platforms

Both EES and MEC Platform are not collocated and deployed in two different EDNs are in two different trust domain and/or owned by different MNOs.

# 2 Proposal

It is proposed to modify the text of TR 23.700-98 as follows.

*1st CHANGE*

### **Annex y (Informative):** Deployment and Evolution options of EDGEAPP and ETSI MEC platforms

## Y.1 General

This clause provides the analysis to address the first open issue of KI#5, which intends to study and analyse different deployment options of EDGEAPP and ETSI MEC platforms. In that regard, this clause describes the following foreseen types of deployment and evolution scenarios for deployment of EDGEAPP and ETSI MEC.

Annex C of TS 23.558 provides a relationship between EDGEAPP and ETSI MEC architectures as in figure below.



Figure Y.1-1: Relationship in EDGEAPP and ETSI MEC architecture

## Y.2 Deployment options

### Y.2.1 Deployment Option-1: Collocated Platforms

Based on Figure Y.1-1, the two platforms (EES and MEC Platform) are co-located, and made by a single (unique) equipment, which is compliant with both standards. This scenario offers a concatenated set of APIs to the application which makes the two platforms appear as single AF while still maintaining their individual specifications. However, the actual deployment details of two platforms is implementation specific. (Figure Y.2.1-1).



**Figure Y.2.1-1: EES and MEC Platform as two different AFs on a single Physical/NFV Infrastructure**

### Y.2.2 Deployment Option-2: Converged architecture

From the practical and business perspective, it is possible that an operator has deployed ETSI MEC architecture in its MEC sites to provide edge service since the stage 1 work of ETSI MEC has been already finished for a period of time. At the same time, the operator still cannot deploy EDGEAPP architecture since the stage 3 work of EDGEAPP is still not completed at the time being.

On the other hand, it is assumed that an enhanced architecture, including a converged architecture as depicted in Figure Y.2.2-1, will be introduced after completion of release 18. The converged architecture is expected to satisfy the following requirement:

* The MEP+EES is able to satisfy all the functionalities of MEP defined in ETSI and EES defined in SA6.
* A uniform API is defined for the EAS and MEC app, i.e., EDGE-3 and Mp1 are unified into one interface and the EAS and MEC app will consume the same service from the MEP+EES.
* EDGE-9 and Mp3 are unified into one interface.

Editor’s note: Management of MEP+EES is under the scope of SA5 and the related reference is FFS.

Editor’s note: Whether and how to enhance EDGE-9 or Mp3 is FFS.

Editor’s Note: Refining overlapping content in this clause is FFS.



Figure Y.2.2-1 Converged architecture for EDGEAPP and ETSI MEC alignment

The two platforms (EES and MEC Platform) are co-located which can be implemented as a single AF (e.g. realized as one VNF) compliant with both standards (Figure Y.2.2-2).



**FigureY.2.2-2: EES and MEC Platform as a single AF on a single NFV Infrastructure (NFVI)**

## 2.2.1

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### Y.2.3 Deployment Option-3: non-Collocated Platforms

The two platforms are non-collocated, and reside in two different data networks, where EES is in the Mobile Network Operator (MNO) domain while the ETSI MEC platform is in another MNO domain (Figure y.1.3).



**Figure y.1.3: EES and MEC Platform as two different AFs in two different EDNs**

*END OF CHANGES*