3GPP TSG SA WG4 Meeting #121 TDoc S4-221495

E-Meeting, 14th – 18th November 2022

**Title: Draft Reply LS on EAS relocation affinity**

**Response to: S6-223029 | S4-221252**

**Release: Rel-18**

**Work Item: FS\_eEDGEAPP**

**Source:** **3GPP SA4**

**To:** **3GPP SA6**

**Cc: 3GPP SA2, 3GPP SA5**

**Contact person: Richard Bradbury**

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**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**Attachments:** None

# 1 Overall description

SA4 thanks SA6 for its liaison response on the subject of EAS instance placement and relocation, and is pleased to learn that SA6 will study this topic as KI#18 in TR 23.700-98.

Addressing the three possible scenarios described by SA6 in the LS, SA4 is pleased to provide answers below the figure.



SA4 confirms that all three scenarios correspond to valid uses of the edge application architecture in connection with current or envisaged SA4 specifications.

- Although valid, **Case 1** does not necessarily require co-deployment or co-migration of the two EAS instances because of the lack of any mutual dependency between them. Even if the EAS instances have similar scaling requirements to each other, there is no obvious affinity between them, and therefore no apparent need for them to run on the same host. However, there may be application-specific state maintained in the UE between its invocation of EASx  and EASy that makes co-deployment and co-migration desirable in order to achieve a comparable scaling characteristic for the two EAS instances. In addition, while it may be acceptable that the two EAS instances execute on different hosts, there may be a requirement for them to run in the same Edge Data Network because they exchange configuration information about each other (e.g. local IP addresses) with the UE.

- **Case 2** illustrates a more tightly coupled scenario between EAS instances. If the interaction between them is time-sensitive or data-intensive, there is strong affinity between the two EAS instances and therefore a good reason to co-deploy and co-migrate them. If the interaction is neither time-sensitive nor data-intensive, the affinity is weak and the EAS instances may just as well run on different hosts.

- **Case 3** is similar to Case 2, and the conclusion is identical. Whether the UE interacts with both EAS instances or just one of them is immaterial to the question of affinity.

In all of these cases, the related EAS classes may or may not have similar KPIs and requirements. In general, it would be nice to be able to declare dependencies between classes of EAS when provisioning them for any deployment scenario, and to be able to indicate whether the affinity between them is strong (co-deployment and co-migration is essential) or weak (co-deployment and co-migration is only "nice to have"). The system could then use this knowledge, alongside the KPI requirements of each EAS class, to determine the most optimal placement of EAS instances across the hosting estate at any given instant.

SA4 would be happy to discuss this Key Issue further with SA6.

# 2 Actions

**To SA6**

**ACTION:** SA4 kindly asks SA6 to take the above information into account in connection with its feasibility study to extend the edge applications architecture.

# 3 Dates of next TSG SA WG 4 meetings

SA4#122 20th–24th February 2023 Athens, Greece

SA4#123-e 17th–21st April 2023 Electonic