3GPP TSG SA WG4 Meeting #123 TDoc S4-230483

Electronic, 17th–21st April 2023

**Title: Reply LS on the reuse of EVEX as specified in TS 26.531**

**Response to: S4-230477 | S6-231059**

**Release: Rel-18**

**Work Item:** **ADAES**

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

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

**Cc: 3GPP SA2, 3GPP CT3**

**Contact person: Richard Bradbury**

**richard dot bradbury at bbc dot co dot uk**

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

**Attachments:** TS 26.531 Rel-17 CR0005

# 1 Overall description

SA4 thanks SA6 for its LS on possible reuse of the SA4-defined EVEX framework in the context of the Application Data Analytics Enablement Services (ADAES) and application service management in eSEAL2 work items in order to avoid duplication of effort.

The "EVEX framework" is here understood to mean:

i. The generic reference architecture for UE data collection, reporting and event exposure as envisaged by SA2 in TS 23.288 and as defined by SA4 in TS 26.531.



ii. The Ndcaf\_DataReportingProvisioning service for provisioning of UE data collection, reporting and event exposure in the Data Collection AF, as specified by SA4 in TS 26.532, as well as northbound exposure of this service by the NEF specified by CT3 in clause 5.24 of TS 29.522.

iii. The Ndcaf\_DataReporting service for UE data reporting, as specified by SA4 in TS 26.532 as well as its northbound exposure by the NEF specified by CT3 in clause 5.23 of TS 29.522.

iv. Use of the Naf\_EventExposure service as defined by SA2 in clause 5.2.19.2 of TS 23.502, and as specified by CT3 in TS 29.517, to expose events to authorised Event Consumer AF instances, as required by SA4 in TS 26.531, as well as southbound exposure of this service by the NEF specified by CT3 in clauses 4.2 and 5.1 of TS 29.591.

SA4 is pleased to provide the following evaluation of whether the existing data collection from the UE Application capability supports the requirements listed by SA6.

NOTE: The requirements are tackled in a different order from the original LS.

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| 2. The UE Application shall be able to send/push collected data on-demand (i.e. without need for setting up session) to ASP through a request/response mechanism. |

*In assessing this requirement, SA4 assumes that "collected data" here refers to UE data that has been collected by the UE Application.*

SA4 believes that this requirement is **partially met** by the EVEX framework in Release 17.

As specified in clause 8.3 of TS 26.532, a UE Application is able to report collected UE data to the Direct Data Collection Client according to a previously obtained data collection and reporting configuration. It does so by invoking the client API method reportUeData at reference point R7. The UE data is reported to the Data Collection AF in line with the stipulations of the data collection and reporting configuration, and the Data Collection AF can subsequently expose derived events to the Event Consumer AF in the ASP. Hence, the ASP can also subscribe to the Data Collection AF at reference point R6 and subsequently receive event notifications.

In Release 17, however, all data reporting by the Direct Data Collection Client occurs in the scope of a data reporting session established with the Data Collection AF at reference point R2, as specified in clauses 4.3.2.2 and 4.3.3 of TS 26.532. Subsequent exposure of derived events to the ASP occurs within the limits of a provisioning session previously established between the ASP and the Data Collection AF at reference point R1, which may include a set of data exposure restrictions expressed in the form of Data Access Profiles. This design ensures that the event exposure configuration fulfils the requirement of the ASP, which may include compliance with data protection regulations. Clause 4.5.2 of TS 26.531 defines a data exposure restriction model for the EVEX framework that satisfies these requirements.

SA4 is not, at present, considering any contributions aimed at extending the EVEX framework to push collected UE data directly to ASPs outside the scope of an enclosing provisioning session i.e. Rel-17 EVEX framework doesn‘t support pushing collected UE data outside the scope of enclosing provisioning session. However, SA4 would be interested to learn more about the use case in order to understand whether it falls within the scope of the EVEX framework, and how the UE data reported to the Data Collection AF can be protected appropriately in the absence of such a session.

Notwithstanding the abovementioned design limitations, SA4 observes that there is nothing to prevent a UE Application from reporting UE data directly to an ASP using application-specific means outside the scope of 3GPP standardisation (i.e., at reference point R8 which is defined in TS 26.531 but not further specified and therefore left to implementation).

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| 3. The ASP shall be able retrieve collected data from the UE Application through a subscribe/notify mechanism. |

*In assessing this requirement, SA4 assumes that "collected data" here refers to UE data collected from the UE Application at reference point R7 per the above requirement, and subsequently reported asynchronously to the Data Collection AF by a configurable subpopulation of UEs.*

SA4 believes that this requirement is **met** by the EVEX framework in Release 17.

Subject to the (potentially extensible) restrictions on permitted event subscribers specified by CT3 in clause 4.2.2.1 of TS 29.517, as well as individual system deployment policy and data exposure restrictions expressed in the current provisioning state, an Event Consumer AF in an ASP is able to subscribe to events exposed by the Data Collection AF using either the Naf\_EventExposure service or else (if deployed in an external DN) the Nnef\_Event‌Exposure service proxied through the NEF.

The events exposed are based on UE data reported asynchronously to the Data Collection AF and are expected to comply with the access restrictions defined for the event in question and the current provisioning state of the Data Collection AF.

However, if ASP needs to subscribe to the UE to receive data directly, then it is out of the scope of SA4. In this case, the requirement is not met by the EVEX framework in Release 17.

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| 4. The ASP shall be able to configure the subscription for the UE Application including the specific information to be reported, the triggering criteria and reporting configuration. |

SA4 believes that this requirement is **partially met** by the EVEX framework in Release 17.

At the point of subscription, only the event of interest and certain limited data filtering criteria (e.g. UE location) are specified by the event consumer (e.g. the ASP) when invoking the SA2-defined Naf\_EventExposure service on the Data Collection AF. The set of UE data to be exposed to event consumers, and hence the set of UE data to be reported by the Direct Data Collection Client (including UE data collected from the UE Application) is configured in the provisioning session previously established between the ASP and the Data Collection AF.

SA4 is not, at present, considering any contributions aimed at changing this split of responsibilities. However, SA4 would like to inform SA6 that it is presently considering a Change Request to enhance the criteria for triggering the reporting of UE data to the Data Collection AF, as well as related enhancements to the reporting configuration. SA4 invites SA6 to review the attached CR and provide comments on whether it satisfies the more detailed requirements of the ADAES work item.

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| 1. The ASP shall be able to retrieve/pull collected data on-demand (i.e. without need for setting up session) from the UE Application through a request/response mechanism. |

*In assessing this requirement, SA4 assumed that "collected data" here refers to UE data that has already been reported asynchronously to the Data Collection AF by a configurable subpopulation of UEs.*

SA4 believes that this requirement is **partially met** by the EVEX framework in Release 17.

The EVEX framework, as presently defined, relies on the Naf\_EventExposure service defined by SA2. This follows an efficient subscription-based model in which authorisation for an event consumer to receive exposed events is established at the time of subscription.

In addition, clause 4.2.2 of TS 29.517 specifies support in its Naf\_EventExposure\_Subscribe service operation for an event consumer to immediately receive already available UE data associated with the subscribed event. (This outcome is achieved by setting the "immediate reporting" flag immRep on the eventRepInfo data structure passed to the Data Collection AF as input parameters to this operation.) If the "immediate reporting" flag is set for a new subscription, an event is returned synchronously in the response; when modifying an existing subscription, the event is sent to the callback endpoint for the subscription. This existing mechanism may satisfy the SA6 requirement. However, the above mechanism will not trigger UE to send the status at that point (on-demand). If the requirement is to trigger the UE to send status on-demand, then in this case, the requirement is not met by the EVEX framework in Release 17.

Alternatively, the Naf\_EventExposure service could potentially be extended by SA2 to offer a more explicit query service operation, in which case all types of event consumer – including the ASP's Event Consumer AF – could take advantage of this facility. Such an operation would have access to UE data already reported to the Data Collection AF, subject to the limitations of its data retention policy.

SA4 is interested to understand this requirement further.

# 2 Actions

**To SA6**

**ACTION:** SA4 asks SA6 to take the above information into account.

**ACTION:** In relation to requirement 4, SA4 invites SA6 to review the attached Change Request and to provide comments.

In addition, SA4 kindly invites SA6 to explain their requirements in greater detail to SA4, perhaps in the context of an informal joint rapporteurs' call prior to SA4#124 (dates in section 3 below).

**To SA2**

**ACTION:** In relation to requirement 1, SA4 asks SA2 to comment on the possibility of extending the Naf\_EventExposure service to include a query operation in support of the stated SA6 requirement.

# 3 Dates of next TSG SA WG 4 meetings

SA4#124 22nd–26th May 2023 Berlin, Germany

SA4#125 21st–25th August 2023 Gothenburg, Sweden