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In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

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Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

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where:

x   the first digit:

1   presented to TSG for information;

2   presented to TSG for approval;

3   or greater indicates TSG approved document under change control.

y   the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z   the third digit is incremented when editorial only changes have been incorporated in the document.

In the present document, modal verbs have the following meanings:

shall   indicates a mandatory requirement to do something

shall not   indicates an interdiction (prohibition) to do something

The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.

The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.

should   indicates a recommendation to do something

should not indicates a recommendation not to do something

may   indicates permission to do something

need not   indicates permission not to do something

The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.

can   indicates that something is possible

cannot   indicates that something is impossible

The constructions "can" and "cannot" are not substitutes for "may" and "need not".

will   indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

will not   indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

might   indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

might not indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

In addition:

is (or any other verb in the indicative mood) indicates a statement of fact

is not (or any other negative verb in the indicative mood) indicates a statement of fact

The constructions "is" and "is not" do not indicate requirements.

1 Scope

The present document specifies the protocol aspects of ADAE of SEAL services. The protocol aspects specify the UE supporting the client functionality of the ADAE SEAL services and the network supporting the server functionality of ADAE SEAL services, where the client functionality and server functionality are specified in 3GPP TS 23.436 [3].

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1]   3GPP TR 21.900: "Technical Specification Group working methods".

[2]   3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[3]   3GPP TS 23.436: "Procedures for Application Data Analytics Enablement Service".

[4]   3GPP TS 26.531: "Data Collection and Reporting; General Description and Architecture".

[5]   3GPP TS 26.532: "Data Collection and Reporting; Protocols and Formats".

[6]   3GPP TS 29.122: "T8 reference point for Northbound APIs".

[7]   3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".

[8]   3GPP TS 29.523: "5G System; Policy Control Event Exposure Service".

[9]   3GPP TS 29.549:" Service Enabler Architecture Layer for Verticals (SEAL); Application Programming Interface (API) specification".

[10]   3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces".

[11]   3GPP TS 33.434: "Service Enabler Architecture Layer for Verticals (SEAL); Security Aspects".

[12]   OpenAPI: "OpenAPI Specification Version 3.0.0", https://spec.openapis.org/oas/v3.0.0.

[13]   IETF RFC 9112: "HTTP/1.1".

[14]   IETF RFC 9110: " HTTP Semantics".

[15]   IETF RFC 9111: "HTTP Caching".

[16]   IETF RFC 9113: "HTTP/2".

[17]   IETF RFC 8259: "The JavaScript Object Notation (JSON) Data Interchange Format".

3 Definitions of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in 3GPP TR 21.905 [2] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [2].

ADAE client: An entity that provides the client side functionalities corresponding to the ADAE.

ADAE server: An entity that provides the server side functionalities corresponding to the ADAE.

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.436 [3] apply:

> **ADAE service**
> **SEAL server**
> **SEAL service**
> **VAL application**
> **VAL server**
> **VAL service**
> **VAL client**
> **Vertical**
> **Vertical application**

> For the purposes of the present document, the following terms and definitions given in 3GPP TS 26.531 [4] apply:
> **data collection client**
> **direct reporting**

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [2] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [2].

ADAE	Application Data Analytics Enablement
ADAEC	Application Data Analytics Enablement Client
ADAES	Application Data Analytics Enablement Server
API	Application Programming Interface
DC-AF	Data Collection AF
DC-Client	Data Collection Client
JSON	JavaScript Object Notation
SEAL	Service Enabler Architecture Layer
UE	User Equipment
VAL	Vertical Application Layer

4 General description

4.1 Overview

Application data analytics enablement service enables an application data analytics enablement client (ADAEC) and a vertical application layer (VAL) server to communicate with an application data analytics enablement server (ADAES).

5 Functional entities

5.1 Application data analytics enablement server (ADAES)

The ADAES is a functional entity with a unique identity in the PLMN and uses the provided data analytics to administer the operations and performance of one or more VAL applications.

5.2 Application data analytics enablement client (ADAEC)

The ADAEC is a functional entity with a unique identity and acts as the VAL application client which provides data analytics of the VAL applications.

6 Application data analytics enablement service API

6.1 General

The clause describes the procedures of the application data analytics enablement service API.

6.2 Application performance analytics

6.2.1 Service description

6.2.1.1 Overview

The ADAE_ServiceConfiguration API, as defined 3GPP TS 23.436 [3], allows the ADAES via ADAE-UU reference point to subscribe to ADAEC to the event of the VAL performance analytics.

6.2.2 Service Operations

6.2.2.1 Introduction

The service operation defined for ADAE_ServiceConfiguration API for application performance analytics is shown in the table 6.2.2.1-1.

Table 6.2.2.1-1: Operations for application performance analytics

Service operation name	Description	Initiated by
Subscribe_VAL_Performance_Analytics	This service operation is used by ADAES to subscribe to the event of the VAL performance analytics.	ADAES
Notify_VAL_Performance_Analytics	This service operation is used by ADAEC to notify about the VAL performance analytics.	ADAEC
Unsubscribe_VAL_Performance_Analytics	This service operation is used by ADAES to unsubscribe from the event of the VAL performance analytics.	ADAES

6.2.2.2 Subscribe_VAL_Performance_Analytics

6.2.2.2.1 General

This service operation is used by the ADAES for VAL performance analytics event subscription to the ADAEC.

6.2.2.2.2 Subscribing to VAL performance analytics event using Subscribe_VAL_Performance_Analytics service operation

To subscribe to VAL performance analytics event, the ADAES shall send an HTTP POST request with a Request-URI according to the pattern "{apiRoot}/adae-sc/<apiVersion>/application-performance" and with a body containing data type AppPerfSub as defined in clause 7.10.1.4.2.2 of 3GPP TS 29.549 [9].

Upon receipt of the HTTP POST request, the ADAEC shall:

    a) verify the identity of the ADAES and determine if the ADAES is authorized to subscribe to the VAL performance analytics event; and

    b) if the ADAES:

       1) is not authorized, the ADAEC shall respond to the ADAES with an appropriate error status code; or

       2) is authorized, the ADAEC shall create a new "Individual application performance event subscription" resource and respond to the ADAES with an HTTP "201 Created" status code, including a Location header field containing the URI for the created "Individual application performance event subscription" and the response body including the AppPerfSub data structure containing a representation of the created resource as defined in clause 7.1.3.

6.2.2.3 Notify_VAL_Performance_Analytics

6.2.2.3.1 General

This service operation is used by the ADAEC to send notification to the ADAES with the VAL performance analytics event subscription to the ADAEC.

6.2.2.3.2 Notifying VAL performance analytics event using Notify_VAL_Performance_Analytics service operation

To notify VAL performance analytics event, the ADAEC shall send an HTTP POST request with a Request-URI according to the pattern "{notifUri}" and with a body containing data type AppPerfNotif as defined in clause 7.10.1.4.2.3 of 3GPP TS 29.549 [9].

Upon receipt of the HTTP POST request, the ADAES shall respond to the ADAEC with:

    a) if the request is successfully processed, a "204 No Content" status code and process the event notification; or

    b) if errors occur when processing the request, an appropriate error response as specified in clause 7.1.6.

6.2.2.4 Unsubscribe_VAL_Performance_Analytics

6.2.2.4.1 General

This service operation is used by the ADAES to unsubscribe from the VAL performance analytics event.

6.2.2.4.2 Unsubscribing from VAL performance analytics event using Unsubscribe_VAL_Performance_Analytics service operation

To unsubscribe from VAL performance analytics event, the ADAES shall send an HTTP DELETE request to the resource representing the event in the ADAES as specified in clause 7.1.3.3.

Upon receiving the HTTP DELETE request:

    a) the ADAEC shall verify the identity of the ADAES and check if the ADAES is authorized to unsubscribe from the VAL performance analytics event associated with the resource URI "{apiRoot}/adae-sc/<apiVersion>/application-performance/{appPerfId}";

b) if the ADAES is authorized to unsubscribe from the VAL performance analytics event, the ADAEC shall delete the resource pointed by the resource URI "{apiRoot}/adae-sc/<apiVersion>/application-performance/{appPerfId}";

c) if the request is successfully processed, the ADAEC shall respond to the ADAES with a "204 No Content" status code; and

d) if errors occur when processing the request, the ADAEC shall respond to the ADAES with an appropriate error response as specified in clause 7.1.6.

6.3 UE-to-UE session performance analytics

6.3.1 Service description

6.3.1.1 Overview

The ADAE_ServiceConfiguration API, as defined 3GPP TS 23.436 [3], allows the ADAES via ADAE-UU reference point, to obtain the UE-to-UE session performance analytics from the ADAEC.

6.3.2 Service Operations

6.3.2.1 Introduction

The service operation defined for ADAE_ServiceConfiguration API for UE-to-UE session performance analytics is shown in the table 6.3.2.1-1.

Table 6.3.2.1-1: Operations for UE-to-UE session performance analytics

Service operation name	Description	Initiated by
Fetch_UE2UE_Session_Performance_Analytics	This service operation is used by ADAES to obtain the UE-to-UE session performance analytics.	ADAES

6.3.2.2 Fetch_UE2UE_Session_Performance_Analytics

6.3.2.2.1 General

This service operation is used by the ADAES for obtaining the UE-to-UE session performance analytics from the ADAEC.

6.3.2.2.2 Obtaining UE-to-UE session performance analytics using Fetch_UE2UE_Session_Performance_Analytics service operation

To obtain the UE-to-UE session performance analytics, the ADAES shall send an HTTP POST request with a Request-URI according to the pattern "{apiRoot}/adae-sc/<apiVersion>/ue2ue-session-performance/fetch" and with a body containing data type Ue2UePerfReq as defined in clause 7.1.5.2.2.

Upon receipt of the HTTP POST request, the ADAEC shall:

a) verify the identity of the ADAES and determine if the ADAES is authorized to obtain the UE-to-UE session performance analytics; and

b) if the ADAES:

1) is not authorized, the ADAEC shall respond to the ADAES with an appropriate error status code; or

2) is authorized, the ADAEC shall respond to the ADAES with an HTTP "200 OK" status code with the response body including the Ue2UePerfResp as defined in clause 7.1.3.3.4.2 with the following attributes:

i)   UE-to-UE session performance analytics;

ii) one or more VAL UEs; and

iii) identity of the UE-to-UE session performance analytics.

6.4   Edge load data collection

6.4.1   Service description

The ADAE_ServiceConfiguration API, as defined 3GPP TS 23.436 [3], allows the ADAES via ADAE-UU reference point to subscribe to ADAEC to the event of the edge load data collection.

6.4.2   Service Operations

6.4.2.1   Introduction

The service operation defined for ADAE_ServiceConfiguration API for edge load data collection is shown in the table 6.4.2.1-1.

Table 6.4.2.1-1: Operations for edge load data collection

Service operation name	Description	Initiated by
Subscribe_Edge_Load_Data_Collection	This service operation is used by ADAES to subscribe to the event of the edge load data collection.	ADAES
Notify_Edge_Load_Data_Collection	This service operation is used by ADAEC to notify about the edge load data collection.	ADAEC
Unsubscribe_Edge_Load_Data_Collection	This service operation is used by ADAES to unsubscribe from the edge load data collection.	ADAES

6.4.2.2   Subscribe_Edge_Load_Data_Collection

6.4.2.2.1   General

This service operation is used by the ADAES for edge load data collection event subscription to the ADAEC.

6.4.2.2.2   Subscribing to edge load data collection event using Subscribe_Edge_Load_Data_Collection service operation

To subscribe to edge load data collection event, the ADAES shall send an HTTP POST request with a Request-URI according to the pattern "{apiRoot}/adae-sc/<apiVersion>/edge-load" and with a body containing data type EdgeSub as defined in clause 7.10.7.4.2.2 of 3GPP TS 29.549 [9].

Upon receipt of the HTTP POST request, the ADAEC shall:

a) verify the identity of the ADAES and determine if the ADAES is authorized to subscribe to the edge load data collection event; and

b) if the ADAES:

1) is not authorized, the ADAEC shall respond to the ADAES with an appropriate error status code; or

2) is authorized, the ADAEC shall create a new "Individual edge load event subscription" resource and respond to the ADAES with an HTTP "201 Created" status code, including a Location header field containing the URI for the created "Individual edge load event subscription" and the response body including the EdgeSub data structure containing a representation of the created resource as defined in clause 7.1.3.

6.4.2.3 Notify_Edge_Load_Data_Collection

6.4.2.3.1 General

This service operation is used by the ADAEC to send notification to the ADAES with the edge load data collection event subscription to the ADAEC.

6.4.2.3.2 Notifying edge load data collection event using Notify_Edge_Load_Data_Collection service operation

To notify edge load data collection event, the ADAEC shall send an HTTP POST request with a Request-URI according to the pattern "{notifUri}" and with a body containing data type EdgeNotif as defined in clause 7.10.7.4.2.3 of 3GPP TS 29.549 [9];

Upon receipt of the HTTP POST request, the ADAES shall respond to the ADAEC with:

a) if the request is successfully processed, a "204 No Content" status code and process the event notification; or

b) if errors occur when processing the request, an appropriate error response as specified in clause 7.1.6.

6.4.2.4 Unsubscribe_Edge_Load_Data_Collection

6.4.2.4.1 General

This service operation is used by the ADAES to unsubscribe from the edge load data collection event.

6.4.2.4.2 Unsubscribing from edge load data collection event using Unsubscribe_Edge_Load_Data_Collection service operation

To unsubscribe from edge load data collection event, the ADAES shall send an HTTP DELETE request to the resource representing the event in the ADAES as specified in clause 7.1.3.6.

Upon receiving the HTTP DELETE request:

a) the ADAEC shall verify the identity of the ADAES and check if the ADAES is authorized to unsubscribe from the edge load data collection event associated with the resource URI "{apiRoot}/adae-sc/<apiVersion>/edge-load/{edgeLdId}";

b) if the ADAES is authorized to unsubscribe from the edge load data collection event, the ADAEC shall delete the resource pointed by the resource URI "{apiRoot}/adae-sc/<apiVersion>/edge-load/{edgeLdId}";

c) if the request is successfully processed, the ADAEC shall respond to the ADAES with a "204 No Content" status code; and

d) if errors occur when processing the request, the ADAEC shall respond to the ADAES with an appropriate error response as specified in clause 7.1.6.

6.5 Service experience performance analytics

6.5.1 General

The ADAE_ServiceConfiguration API, as defined 3GPP TS 23.436 [3], allows the ADAES via ADAE-UU reference point to:

- configure the ADAEC with triggers for reporting service experience information;

- configure the ADAEC to push the service experience information report; and

- pull from the ADAEC, the service experience information report.

6.5.2 Service Operations

6.5.2.1 Introduction

The service operation defined for ADAE_ServiceConfiguration API for service experience information is shown in the table 6.5.2.1-1.

Table 6.5.2.1-1: Operations for service experience information

Service operation name	Description	Initiated by
Configure_Triggers_Service_Experience_Information_Report	This service operation is used by ADAES to configure triggers for service experience information report.	ADAES
Abolish_Triggers_Service_Experience_Information_Report	This service operation is used by ADAES to abolish already configured triggers for service experience information report.	ADAES
Push_Service_Experience_Information_Report	This service operation is used by ADAEC to push service experience information report.	ADAEC
Pull_Service_Experience_Information_Report	This service operation is used by ADAES to pull service experience information report.	ADAES

6.5.2.2 Configure_Triggers_Service_Information_Experience_Report

6.5.2.2.1 General

This service operation is used by the ADAES to configure the ADAEC with triggers for reporting the service experience information.

6.5.2.2.2 Configuring service experience information reporting using Configure_Triggers_Service_Information_Experience_Report service operation

To fetch the configuration triggers from the ADAES, if direct DC-Client is available in the UE, the ADAEC may use the direct DC-Client services as defined in clause 4.4.2 of 3GPP TS 26.532 [5]. The ADAEC may provide below information as input parameters to the application registration procedure:

    a) external application identifier specific to the ADAEC;

    b) application service provider identifier specific to the ADAES;

    c) callback listener of the ADAEC to receive the future response; and

    d) consent for the UE identity (i.e. GPSI) to be included in data reports, sent to the DC-AF.

Upon receiving the request, the DC-AF returns "DataReportingSession" resource as defined in clause 7.3.2.1 of 3GPP TS 26.532 [5] to DC-Client in the response message and in the "reportingConditions" attribute, the "DataDomain" is set to "APPLICATION_SPECIFIC" and "ReportingCondition" shall be set with the triggers in the "ConfigRepTrigger" attribute as defined in clause 7.1.5.2.4 send to the DC-Client.

On success, the DC-Client provides the "DataReportingSession" as defined in clause 7.3.2.1 of 3GPP TS 26.532 [5] to the ADAEC.

6.5.2.3 Abolish_Triggers_Service_Experience_Information_Report

6.5.2.3.1 General

This service operation is used by the ADAES to abolish the configured triggers on the ADAEC for the service experience information reporting.

6.5.2.3.2 Abolishing service experience information reporting using Abolish_Triggers_Service_Experience_Information_Report service operation

To abolish triggers from the configured service experience information reporting, the ADAES shall send an HTTP DELETE request to the resource representing the event in the ADAES as specified in clause 7.1.3.8.

Upon receiving the HTTP DELETE request:

a) the ADAEC shall verify the identity of the ADAES and check if the ADAES is authorized to abolish triggers from the configured service experience information reporting associated with the resource URI "{apiRoot}/adae-sc/<apiVersion>/service-experience/{srvTrigId}";

b) if the ADAES is authorized to abolish triggers from the configured service experience information reporting, the ADAEC shall delete the resource pointed by the resource URI "{apiRoot}/adae-sc/<apiVersion>/service-experience/{srvTrigId}";

c) if the request is successfully processed, the ADAEC shall respond to the ADAES with a "204 No Content" status code; and

d) if errors occur when processing the request, the ADAEC shall respond to the ADAES with an appropriate error response as specified in clause 7.1.6.

6.5.2.4 Push_Service_Experience_Information_Report

6.5.2.4.1 General

This service operation is used by the ADAEC to push the service experience information report to the ADAES.

6.5.2.4.2 Pushing service experience information report using Push_Service_Experience_Information_Report service operation

When Direct DC-Client is available in the UE, to push the service experience information report to the ADAES based on the request from VAL client or trigger conditions meeting, the ADAEC shall:

a) create the service experience information report as defined in "SrvExpInfoRep" data type in table 7.1.5.2.7-1; and

b) invoke the "reportUeData" method as defined in clause 4.4.4 of 3GPP TS 26.532 [5] and provide "DataReport" data type as defined in clause 7.3.2.3 of 3GPP TS 26.532 [5] as input parameter with the "applicationSpecificRecords" attribute set with the "SrvExpInfoRep" data type in table 7.1.5.2.7-1.

On receiving the service experience information request, the ADAES shall process the report from ADAEC to determine/predict analytics and initiate further actions as defined in clause 8.9.2.1 of 3GPP TS 23.436 [3].

6.5.2.5 Pull_Service_Experience_Information_Report

6.5.2.5.1 General

This service operation is used by the ADAES to pull the service experience information report from the ADAEC.

6.5.2.5.2 Pulling service experience information report using Pull_Service_Experience_Information_Report service operation

To pull the service experience information report from the ADAEC, the ADAES shall send an HTTP POST request with a Request-URI according to the pattern "{apiRoot}/adae-sc/<apiVersion>/service-experience/pull" and with a body containing data type PullSrvExpInfo as defined in clause 7.1.5.2.6.

Upon receipt of the HTTP POST request:

a) the ADAEC shall verify the identity of the ADAES and determine if the ADAES is authorized to pull the service experience information report; and

b) if the ADAES:

1) is not authorized, the ADAEC shall respond to the ADAES with an appropriate error status code; or

2) is authorized, the ADAEC shall respond to the ADAES with an HTTP "200 OK" status code and with a body containing data type SrvExpInfoRep as defined in clause 7.1.5.2.7.

Upon receipt of the HTTP POST request, the ADAES shall respond to the ADAEC with a "204 No Content" status code and process the report.

7   API Definitions

7.1   ADAE_ServiceConfiguration API

7.1.1   Introduction

The HTTP URIs used in HTTP protocol for the ADAE service shall have the resource URI structure as defined in clause 5.2.4 of 3GPP TS 29.122 [6]:

> **{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>**

where:

a) {apiRoot} shall be set as described in clause 5.2.4 of 3GPP TS 29.122 [6];

b) <apiName> shall be "adae-sc";

c) <apiVersion> shall be "v1"; and

d) <apiSpecificSuffixes> shall be set as described in clause 7.1.3.

7.1.2   Usage of HTTP

7.1.2.1   General

For ADAE service configuration API, support of HTTP/1.1 (IETF RFC 9112 [13], IETF RFC 9110 [14] and IETF RFC 9111 [15]) over TLS is mandatory and support of HTTP/2 (IETF RFC 9113 [16]) over TLS is recommended.

A functional entity desiring to use HTTP/2 shall use the HTTP upgrade mechanism to negotiate applicable HTTP version as described in IETF RFC 9113 [16].

7.1.2.2   Content type

The bodies of HTTP request and successful HTTP responses shall be encoded in JSON format (see IETF RFC 8259 [17]).

The MIME media type that shall be used within the related Content-Type header field is "application/json", as defined in IETF RFC 8259 [17].

7.1.3   Resources

7.1.3.1   Overview

This clause describes the structure for the Resource URIs and the resources and methods used for the service.

Figure 7.1.3.1-1 depicts the resource URI structure of the ADAE_ServiceConfiguration API.

{apiRoot}/adae-sc/<apiVersion>
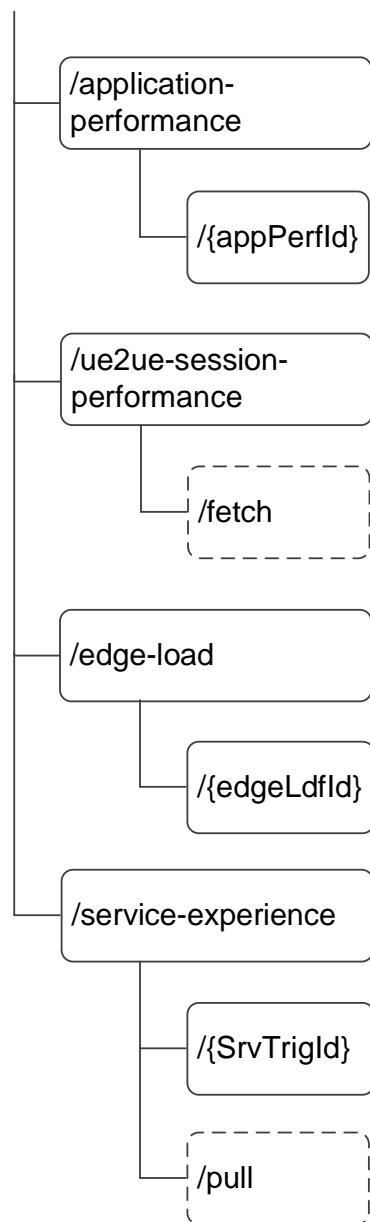
Figure 7.1.3.1-1: Resource URI structure of the ADAE_ServiceConfiguration API

Table 7.1.3.1-1 provides an overview of the resources and applicable HTTP methods.

Table 7.1.3.1-1: Resources and methods overview

Resource name	Resource URI	HTTP method	Description
Application performance event subscription	/application-performance	POST	Subscription to the VAL performance analytics event
Individual application performance event subscription	/application-performance/{appPerfId}	DELETE	Deletes an individual VAL performance analytics event
Edge load event subscription	/edge-load	POST	Subscription to the edge load data collection event
Individual edge load event subscription	/edge-load/{edgeLdId}	DELETE	Deletes an individual edge load data collection subscription
Service experience	/service-experience	POST	Configure triggers for reports on the service experience information
Individual service experience	/service-experience/{srvTrigId}	DELETE	Delete an individual trigger-configuration for service experience report

7.1.3.2 Resource: Application performance event subscription

7.1.3.2.1 Description

Application performance event subscription is used by the ADAES to subscribe to the ADAEC for the event of the VAL performance analytics.

7.1.3.2.2 Resource definition

Resource URI: **{apiRoot}/adae-sc/<apiVersion>/application-performance**

This resource shall support the resource URI variables defined in the table 7.1.3.2.2-1.

Table 7.1.3.2.2-1: Resource URI variables for this resource

Name	Data Type	Definition
apiRoot	string	See clause 5.2.4 in 3GPP TS 29.122 [6]

7.1.3.2.3 Resource standard methods

7.1.3.2.3.1 POST

This operation is for subscription to the VAL application performance analytics and shall support the URI query parameters specified in table 7.1.3.2.3.1-1.

Table 7.1.3.2.3.1-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description	Applicability
n/a					

This method shall support the request data structures specified in table 7.1.3.2.3.1-2and the response data structures and response codes specified in table 7.1.3.2.3.1-3.

Table 7.1.3.2.3.1-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
AppPerfSub	M	1	Subscription to the VAL performance analytics event

Table 7.1.3.2.3.1-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AppPerfSub	M	1	201 Created	Subscription to the VAL performance analytics is created.
NOTE:	The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] shall also apply.			

Table 7.1.3.2.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/adae-sc/<apiVersion>/application-performance/{appPerfId}

7.1.3.2.4   Resource custom operations

None.

7.1.3.3   Resource: Individual application performance event subscription

7.1.3.3.1   Description

The individual application performance event subscription resource represents an individual event subscription of the ADAES.

7.1.3.3.2   Resource Definition

Resource URI: **{apiRoot}/adae-sc/<apiVersion>/application-performance/{appPerfId}**

This resource shall support the resource URI variables defined in the table 7.1.3.3.2-1.

Table 7.1.3.3.2-1: Resource URI variables for this resource

Name	Data Type	Definition
apiRoot	string	See clause 5.2.4 in 3GPP TS 29.122 [6]
appPerfId	string	Identifies an application performance event subscription

7.1.3.3.3   Resource Standard Methods

7.1.3.3.3.1   DELETE

This method shall support the URI query parameters specified in table 7.1.3.3.3.1-1.

Table 7.1.3.3.3.1-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.1.3.3.3.1-2 and the response data structures and response codes specified in table 7.1.3.3.3.1-3.

Table 7.1.3.3.3.1-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 7.1.3.3.3.1-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The individual application performance event subscription matching the appPerfId is deleted.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] also apply.				

7.1.3.3.4 Resource Custom Operations

None.

7.1.3.4 Resource: UE-to-UE session performance analytics

7.1.3.4.1 Description

This resource is used by the ADAES to request the ADAEC for the UE-to-UE session performance analytics.

7.1.3.4.2 Resource definition

Resource URI: **{apiRoot}/adae-sc/<apiVersion>/ue2ue-session-performance**

This resource shall support the resource URI variables defined in the table 7.1.3.4.2-1.

Table 7.1.3.4.2-1: Resource URI variables for this resource

Name	Data Type	Definition
apiRoot	string	See clause 5.2.4 in 3GPP TS 29.122 [6]

7.1.3.4.3 Resource standard methods

None

7.1.3.4.4 Resource custom operations

7.1.3.4.4.1 Overview

Table 7.1.3.4.4.1-1: Custom operations

Operation name	Custom operation URI	Mapped HTTP method	Description
Fetch	/ue2ue-session-performance/fetch	POST	Request for the UE-to-UE session performance analytics

7.1.3.4.4.2 Fetch

This custom operation is for the ADAES to request the ADAEC the UE-to-UE session performance analytics and shall support the URI query parameters specified in table 7.1.3.4.4.2-1.

Table 7.1.3.4.4.2-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description	Applicability
n/a					

This custom operation shall support the request data structures specified in table 7.1.3.4.4.2-2 and the response data structures and response codes specified in table 7.1.3.4.4.2-3.

Table 7.1.3.4.4.2-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
Ue2UePerfReq	M	1	ADAES requests ADAEC for the UE-to-UE session performance analytics

Table 7.1.3.4.4.2-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
Ue2UePerfResp	M	1	200 OK	ADAEC responses ADAES the UE-to-UE session performance analytics
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] shall also apply.				

7.1.3.5 Resource: Edge load data collection event subscription

7.1.3.5.1 Description

Edge load data collection event subscription is used by the ADAES to subscribe to the ADAEC for the event of the edge load data collection.

7.1.3.5.2 Resource definition

Resource URI: **{apiRoot}/adae-sc/<apiVersion>/edge-load**

This resource shall support the resource URI variables defined in the table 7.1.3.5.2-1.

Table 7.1.3.5.2-1: Resource URI variables for this resource

Name	Data Type	Definition
apiRoot	string	See clause 5.2.4 in 3GPP TS 29.122 [6]

7.1.3.5.3 Resource standard methods

7.1.3.5.3.1 POST

This method is the ADAES to subscribe to the ADAEC for the event of the edge-load data collection and shall support the URI query parameters specified in table 7.1.3.5.3.1-1.

Table 7.1.3.5.3.1-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description	Applicability
n/a					

This method shall support the request data structures specified in table 7.1.3.5.3.1-2 and the response data structures and response codes specified in table 7.1.3.5.3.1-3.

Table 7.1.3.5.3.1-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
EdgeSub	M	1	Subscription to the edge load data collection event

Table 7.1.3.5.2.3.1-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
EdgeSub	M	1	201 Created	Subscription to the edge load data collection is created.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] shall also apply.				

Table 7.1.3.5.2.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	String	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/adae-sc/<apiVersion>/edge-load/{edgeLdId}

7.1.3.5.4 Resource custom operations

None.

7.1.3.6 Resource: Individual edge load event subscription

7.1.3.6.1 Description

The individual edge load event subscription resource represents an individual event subscription of the ADAE server.

7.1.3.6.2 Resource Definition

Resource URI: **{apiRoot}/adae-sc/<apiVersion>/edge-load/{edgeLdId}**

This resource shall support the resource URI variables defined in the table 7.1.3.6.2-1.

Table 7.1.3.6.2-1: Resource URI variables for this resource

Name	Data Type	Definition
apiRoot	string	See clause 5.2.4 in 3GPP TS 29.122 [6]
edgeLdId	string	Identifies an edge load data collection event subscription

7.1.3.6.3 Resource Standard Methods

7.1.3.6.3.1 DELETE

This method shall support the URI query parameters specified in table 7.1.3.6.3.1-1.

Table 7.1.3.6.3.1-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.1.3.6.3.1-2 and the response data structures and response codes specified in table 7.1.3.6.3.1-3.

Table 7.1.3.6.3.1-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 7.1.3.6.3.1-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The individual edge load data collection event subscription matching the edgeLdId is deleted.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] also apply.				

7.1.3.6.4   Resource Custom Operations

None.

7.1.3.7   Resource: Service experience information

7.1.3.7.1   Description

The resource is used by the ADAES to:

   a) configure the ADAEC with triggers for reporting service experience information;

   b) configure the ADAEC to push the service experience information report to the ADAES; and

   c) pull the service experience information report from the ADAEC.

7.1.3.7.2   Resource definition

Resource URI: **{apiRoot}/adae-sc/<apiVersion>/service-experience**

This resource shall support the resource URI variables defined in the table 7.1.3.7.2-1.

Table 7.1.3.7.2-1: Resource URI variables for this resource

Name	Data Type	Definition
apiRoot	string	See clause 5.2.4 in 3GPP TS 29.122 [6]

7.1.3.7.3   Resource standard methods

7.1.3.7.3.1   POST

This operation is used by the ADAES to configure ADAEC with triggers for reporting the service experience information and shall support the URI query parameters specified in table 7.1.3.7.3.1-1.

Table 7.1.3.7.3.1-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description	Applicability
n/a					

This method shall support the request data structures specified in table 7.1.3.7.3.1-2 and the response data structures and response codes specified in table 7.1.3.7.3.1-3.

Table 7.1.3.7.3.1-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
ConfigRepTrigger	M	1	Configure triggers for service experience information reporting

Table 7.1.3.7.3.1-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
ConfigRepTrigger	M	1	201 Created	Configuration of service experience information reporting was successful.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] shall also apply.				

Table 7.1.3.7.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/adea-sc/<apiVersion>/service-experience /{srvTrigId}.

7.1.3.7.4   Resource custom operations

7.1.3.7.4.1   Overview

Table 7.1.3.7.4.1-1: Custom operations

Operation name	Custom operation URI	Mapped HTTP method	Description
Push	/service-experience/push	POST	Push a service experience information report
Pull	/service-experience/pull	POST	Pull a service experience information report

7.1.3.7.4.2   Operation: PUSH Service Experience Information

This method is used by the ADAEC to push the service experience information report to the ADAES and shall support the URI query parameters specified in table 7.1.3.7.4.2-1.

Table 7.1.3.7.4.2-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description	Applicability
n/a					

This method shall support the request data structures specified in table 7.1.3.7.4.2-2 and the response data structures and response codes specified in table 7.1.3.7.4.2-3.

Table 7.1.3.7.4.2-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
Uri	M	1	Configure to report the service experience information

Table 7.1.3.7.4.2-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
SrvExpInfoRep	M	1	200 OK	Configuration to report on the service experience information is accepted.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] shall also apply.				

7.1.3.7.4.3 Operation: PULL Service Experience Information

This operation is used by the ADAES to pull the service experience information report from the ADAEC and shall support the URI query parameters specified in table 7.1.3.7.4.3-1.

Table 7.1.3.7.4.3-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description	Applicability
n/a					

This method shall support the request data structures specified in table 7.1.3.7.4.3-2 and the response data structures and response codes specified in table 7.1.3.7.4.3-3.

Table 7.1.3.7.4.3-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
PullSrvExpInfo	M	1	Request for the report on the service experience information

Table 7.1.3.7.4.3-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
SrvExpInfoRep	M	1	200 OK	Successfully obtaining the report on the service experience information
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] shall also apply.				

7.1.3.8 Resource: Individual trigger configuration for service experience information reporting

7.1.3.8.1 Description

The individual trigger configuration for service experience information reporting resource represents an individual event trigger configuration of the ADAES.

7.1.3.8.2 Resource Definition

Resource URI: **{apiRoot}/adae-sc/<apiVersion>/service-experience/{srvTrigId}**

This resource shall support the resource URI variables defined in the table 7.1.3.8.2-1.

Table 7.1.3.8.2-1: Resource URI variables for this resource

Name	Data Type	Definition
apiRoot	string	See clause 5.2.4 in 3GPP TS 29.122 [6]
srvTrigId	string	Identifies a trigger configuration for service experience information reporting

7.1.3.8.3 Resource Standard Methods

7.1.3.8.3.1 DELETE

This method shall support the URI query parameters specified in table 7.1.3.8.3.1-1.

Table 7.1.3.8.3.1-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.1.3.8.3.1-2 and the response data structures and response codes specified in table 7.1.3.8.3.1-3.

Table 7.1.3.8.3.1-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 7.1.3.8.3.1-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The individual trigger-configured service experience information reporting matching the srvTrigId is deleted.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] also apply.				

7.1.3.8.4 Resource Custom Operations

None.

7.1.4 Notifications

7.1.4.1 General

Table 7.1.4.1-1: Notifications overview

Notification	Callback URI	HTTP method	Description (service operation)
Application performance event notification	{notifUri}	POST	Notification for the VAL performance analytics event
Edge load event notification	{notifUri}	POST	Notification for the edge load data collection event
Service experience report event notification	{notifUri}	POST	Notification for the service experience report event

7.1.4.2 Application performance event notification

7.1.4.2.1 Description

Application performance event notification is by the ADAEC to notify the ADAES, the VAL performance analytics.

7.1.4.2.2 Notification definition

The POST method shall be used for the event notification and the callback URI shall be the one provided by the consumer during the subscription to the event.

Callback URI: **{notifUri}**

This method shall support the URI query parameters specified in table 7.1.4.2.2-1.

Table 7.1.4.2.2-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description
n/a				

If the notification is on the VAL performance analytics, this method shall support the request data structures specified in table 7.1.4.2.2-2 and the response data structures and response codes specified in table 7.1.4.2.2-3.

Table 7.1.4.2.2-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
AppPerfNotif	M	1	Notification information of the VAL performance analytics.

Table 7.1.4.2.2-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Notification for the VAL performance analytics event is accepted.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] shall also apply.				

7.1.4.3 Edge load event notification

7.1.4.3.1 Description

The edge load event notification is used by the ADAEC to notify the ADAES, the edge load data collection.

7.1.4.3.2 Notification definition

The POST method shall be used for the event notification and the callback URI shall be the one provided by the consumer during the subscription to the event.

Callback URI: **{notifUri}**

This method shall support the URI query parameters specified in table 7.1.4.3.2-1.

Table 7.1.4.3.2-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description
n/a				

If the notification is on the edge load data collection, this method shall support the request data structures specified in table 7.1.4.3.2-2 and the response data structures and response codes specified in table 7.1.4.3.2-3.

Table 7.1.4.3.2-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
EdgeNotif	M	1	Notification information of edge load data collection event

Table 7.1.4.3.2-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Notification for the edge load data collection event is accepted.
NOTE:	The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] shall also apply.			

7.1.4.4 Service experience information report event notification

7.1.4.4.1 Description

The service experience information report event notification is used by the ADAEC to notify the ADAES, the service experience information.

7.1.4.4.2 Notification definition

The POST method shall be used for the event notification and the callback URI shall be the one provided by the consumer during the subscription to the event.

Callback URI: **{notifUri}**

This method shall support the URI query parameters specified in table 7.1.4.4.2-1.

Table 7.1.4.4.2-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description
n/a				

If the notification is on the service experience information, this method shall support the request data structures specified in table 7.1.4.4.2-2 and the response data structures and response codes specified in table 7.1.4.4.2-3.

Table 7.1.4.4.2-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
SrvExpInfoRep	M	1	Notification of service experience information report

Table 7.1.4.4.2-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a	M	1	204 (No Content)	Notification of the service experience information report is accepted.
NOTE:	The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [6] shall also apply.			

7.1.5 Data model

7.1.5.1 General

This clause specifies the application data model supported by the API.

Table 7.1.5.1-1 specifies the data types defined for the ADAE_ServiceConfiguration API.

Table 7.1.5.1-1: ADAE_ServiceConfiguration API specific Data Types

Data type	Clause defined	Description	Applicability
ConfigRepTrigger	7.1.5.2.4	Configure triggers for reports on the service experience information	
PullSrvExpInfo	7.1.5.2.6	Pull an individual service experience information	
SrvExpInfoRep	7.1.5.2.7	Response to pull an individual service experience information	
Ue2UePerfReq	7.1.5.2.2	Request for the UE-to-UE session performance analytics	
Ue2UePerfResp	7.1.5.2.3	Response for the UE-to-UE session performance analytics	
ValServSpecCrit	7.1.5.2.5		

Table 7.1.5.1-2 specifies data types re-used by the ADAE_ServiceConfiguration API service.

Table 7.1.5.1-2: Re-used Data Types

Data type	Reference	Comments	Applicability
AppPerfSub	3GPP TS 29.549 [9]	Subscription to the VAL application performance analytics	
AppPerfNotif	3GPP TS 29.549 [9]	Notification information of the application performance analytics.	
DurationSec	3GPP TS 29.122 [6]	Represent the time interval between successive location reports.	
EdgeSub	3GPP TS 29.549 [9]	Subscription to the edge load analytics event	
EdgeNotif	3GPP TS 29.549 [9]	Notification information of the edge load analytics event.	
LocationArea	3GPP TS 29.122 [6]	Represents location information.	
Pc5QoSPara	3GPP TS 29.571 [10]	Represents policy data on the PC5 QoS parameters.	
ReportingInformation	3GPP TS 29.523 [8]	Indicates the reporting requirement.	
ValTargetUe	3GPP TS 29.549 [9]	Used to indicate either VAL User ID or VAL UE ID.	

7.1.5.2   Structured data types

7.1.5.2.1   Introduction

This clause defines the structures to be used in resource representations.

7.1.5.2.2   Type: Ue2UePerfReq

Table 7.1.5.2.2-1: Definition of type Ue2UePerfReq

Attribute name	Data type	P	Cardinality	Description	Applicability
serverId	string	M	1	Identity of the ADAES	
analyticsId	string	M	1	Identity of the UE-to-UE session analytics	
valUeIds	array(ValTargetUe)	M	1..N	One or more VAL UEs, for which the UE-to-UE session performance analytics, is requested.	
pc5Qos	Pc5QoSPara	M	1	The QoS attributes to be analysed at the ADAEC during UE-to-UE session.	
reportConfig	ReportingInformation	O	0..1	The configuration of UE-to-UE session performance analytics reporting.	
area	LocationArea	O	0..1	The geographical or service area, for which the UE-to-UE session performance analytics is requested.	
timeWindow	DurationSec	O	0..1	The time window as the start time point and the end time point, for which the UE-to-UE session performance analytics is applied.	

7.1.5.2.3   Type: Ue2UePerfResp

Table 7.1.5.2.-1: Definition of type Ue2UePerfResp

Attribute name	Data type	P	Cardinality	Description	Applicability
dataOutputs	array(string)	M	1..N	UE-to-UE session performance analytics for prediction or statistics depending on the type and on the requested QoS parameter based on the analytics event.	
valUeIds	array(ValTargetUe)	M	1..N	One or more VAL UEs, for which the UE-to-UE session performance analytics applies.	
analyticsId	string	M	1	Identity of the UE-to-UE session analytics	

7.1.5.2.4   Type: ConfigRepTrigger

Table 7.1.5.2.4-1: Definition of type ConfRepTrigger

Attribute name	Data type	P	Cardinality	Description	Applicability
valServSpecCrit	ValServSpecCrit	M	1	Identity of the VAL server, requesting service experience information report.	
commonTriggCrit	SrvExpRepCrit	O	0..1	Information criteria about the triggers (applicable to all VAL servers) on which the service experience information is fetched.	
srvExpMeas	DurationSec	O	0..1	Information about the service experience information measurements which needs to be fetched and included in the report. If not present, by default end-to-end response time is measured.	
notifyTarget	string	O	0..1	The target address which is notified.	

7.1.5.2.5 Type: ValServSpecCrit

Table 7.1.5.2.5-1: Definition of type ValServSpecCrit

Attribute name	Data type	P	Cardinality	Description	Applicability
valServerIds	array(string)	M	1..N	Identities of one or more VAL servers, for which the configuration of the service experience information report applies.	
triggCrit	SrvExpRepCrit	M	1	Information criteria about the triggers on which the service experience is information to be reported for the VAL server.	

7.1.5.2.6 Type: PullSrvExpInfo

Table 7.1.5.2.6-1: Definition of type PullSrvExpInfo

Attribute name	Data type	P	Cardinality	Description	Applicability
valServerId	string	M	1	Identity of the VAL server, for which the service experience information report is requested.	
valServiceId	string	O	0..1	Identity of the VAL service	

7.1.5.2.7 Type: SrvExpInfoRep

Table 7.1.5.2.7-1: Definition of type SrvExpInfoRep

Attribute name	Data type	P	Cardinality	Description	Applicability
valUeId	ValTargetUe	M	1	Identity of VAL UE	
valServerId	string	M	1	Identity of the VAL server, for which the service experience information report is requested.	
valServiceId	string	O	0..1	Identity of the VAL service	
timeStamp	DurationSec	O	0..1	Timestamp as start time and end time of the collected report	
valSrvExpRep	ReportingInformation	O	0..1	Report on the VAL service experience information	

7.1.5.3 Simple data types and enumerations

7.1.5.3.1 Introduction

This clause defines simple data types and enumerations that can be referenced from data structures defined in the previous clauses.

7.1.5.3.2 Simple data types

None.

7.1.5.3.3 Enumeration: SrvExpRepCrit

Table 7.1.5.3.3-1: Enumeration SrvExpRepCrit

Enumeration value	Description	Applicability
TRIGGER_CRITERIA	Information criteria that can trigger service experience information reporting to a VAL server.	
COMMON_TRIGGER_CRITERIA	Information criteria that can trigger service experience information reporting to all VAL servers.	

7.1.6 Error Handling

7.1.6.1 General

HTTP error handling shall be supported as specified in clause 5.2.6 of 3GPP TS 29.122 [4].

In addition, the requirements in the following clauses shall apply.

7.1.6.2 Protocol Errors

In this release of the specification, there are no additional protocol errors applicable for the ADAE_ServiceConfiguration API.

7.1.6.3 Application Errors

The application errors defined for ADAE_ServiceConfiguration API are listed in table 7.1.6.3-1.

Table 7.1.6.3-1: Application errors

Application Error	HTTP status code	Description	Applicability

7.1.7 Feature Negotiation

General feature negotiation procedures are defined in clause 5.2.7 of 3GPP TS 29.122 [6]. Table 7.1.7-1 lists the supported features for ADAE_ServiceConfiguration API.

Table 7.1.7-1: Supported Features

Feature number	Feature Name	Description

8 Usage of common API framework

8.1 General

Usage of common API framework shall be supported by the ADAE service configuration API as described in clause 8 in 3GPP TS 29.549 [9].

9 Security

9.1 General

Usage of HTTP over TLS and the TLS profiles shall be as specified in clause 5.1.1.4 of 3GPP TS 33.434 [11].

Annex A (normative):
OpenAPI specification

A.1 General

This annex is based on the OpenAPI Specification [12] and provides corresponding representations of all APIs defined in the present specification.

NOTE 1: An OpenAPIs representation embeds JSON Schema representations of HTTP message bodies.

This annex shall take precedence when being discrepant to other parts of the specification with respect to the encoding of information elements and methods within the API(s).

NOTE 2: The semantics and procedures, as well as conditions, e.g. for the applicability and allowed combinations of attributes or values, not expressed in the OpenAPI definitions but defined in other parts of the specification also apply.

Informative copies of the OpenAPI specification files contained in this 3GPP Technical Specification are available on a Git-based repository that uses the GitLab software version control system (see clause 5B of the 3GPP TR 21.900 [1] and clause 5.3.1 of the 3GPP TS 29.501 [7] for further information).

A.2 ADAE_ServiceConfiguration API

```
openapi: 3.0.0

info:
  title: ADAE_ServiceConfiguration
  version: 1.0.0-alpha.1
  description: |
    API for ADAE service configuration.
    © 2024, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).
    All rights reserved.

externalDocs:
  description: >
    3GPP TS 24.559 V0.5.0 Appliction Data Analytics Enablement Service; Stage 3.
  url: https://www.3gpp.org/ftp/Specs/archive/24_series/24.559/

security:
  - {}
  - oAuth2ClientCredentials: []

servers:
  - url: '{apiRoot}/adae-sc/v1'
    variables:
      apiRoot:
        default: https://example.com
        description: apiRoot as defined in clause 5.2.4 of 3GPP TS 29.122.

paths:
  /application-performance:
    post:
      description: >
        Creates a new individual VAL performance analytics event subscription.
      operationId: VALPerformanceSubscription
      tags:
        - VAL performance event subscriptions (Collection)
      requestBody:
        required: true
        content:
          application/json:
            schema:
              $ref: 'TS29549_SS_ADAE_VALPerformanceAnalytics.yaml#/components/schemas/AppPerfSub'
      callbacks:
        notificationUri:
          '{$request.body#/notifUri}':
            post:
```

```
                requestBody:
                  required: true
                  content:
                    application/json:
                      schema:
                        $ref:
'TS29549_SS_ADAE_VALPerformanceAnalytics.yaml#/components/schemas/AppPerfNotif'
                responses:
                  '204':
                    description: No Content (successful notification)
                  '307':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/307'
                  '308':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/308'
                  '400':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/400'
                  '401':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/401'
                  '403':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/403'
                  '404':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/404'
                  '411':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/411'
                  '413':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/413'
                  '415':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/415'
                  '429':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/429'
                  '500':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/500'
                  '503':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/503'
                  default:
                    $ref: 'TS29122_CommonData.yaml#/components/responses/default'
      responses:
        '201':
          description: VAL performance event subscription resource created successfully.
          content:
            application/json:
              schema:
                $ref: 'TS29549_SS_ADAE_VALPerformanceAnalytics.yaml#/components/schemas/AppPerfSub'
          headers:
            Location:
              description: Contains the URI of the newly created resource.
              required: true
              schema:
                type: string
        '400':
          $ref: 'TS29122_CommonData.yaml#/components/responses/400'
        '401':
          $ref: 'TS29122_CommonData.yaml#/components/responses/401'
        '403':
          $ref: 'TS29122_CommonData.yaml#/components/responses/403'
        '404':
          $ref: 'TS29122_CommonData.yaml#/components/responses/404'
        '411':
          $ref: 'TS29122_CommonData.yaml#/components/responses/411'
        '413':
          $ref: 'TS29122_CommonData.yaml#/components/responses/413'
        '415':
          $ref: 'TS29122_CommonData.yaml#/components/responses/415'
        '429':
          $ref: 'TS29122_CommonData.yaml#/components/responses/429'
        '500':
          $ref: 'TS29122_CommonData.yaml#/components/responses/500'
        '503':
          $ref: 'TS29122_CommonData.yaml#/components/responses/503'
        default:
          $ref: 'TS29122_CommonData.yaml#/components/responses/default'

  /application-performance/{appPerfId}:
    delete:
      description: Deletes an individual VAL performance event subscription.
      operationId: DeleteIndValPerfEventSubsc
      tags:
        - Individual VAL performance event subscription
```

```
        parameters:
          - name: appPerfId
            in: path
            description: Identifier of an individual VAL performance event subscription.
            required: true
            schema:
              type: string
        responses:
          '204':
            description: >
              The individual VAL performance subscription matching the appPerfId is deleted.
          '307':
            $ref: 'TS29122_CommonData.yaml#/components/responses/307'
          '308':
            $ref: 'TS29122_CommonData.yaml#/components/responses/308'
          '400':
            $ref: 'TS29122_CommonData.yaml#/components/responses/400'
          '401':
            $ref: 'TS29122_CommonData.yaml#/components/responses/401'
          '403':
            $ref: 'TS29122_CommonData.yaml#/components/responses/403'
          '404':
            $ref: 'TS29122_CommonData.yaml#/components/responses/404'
          '429':
            $ref: 'TS29122_CommonData.yaml#/components/responses/429'
          '500':
            $ref: 'TS29122_CommonData.yaml#/components/responses/500'
          '503':
            $ref: 'TS29122_CommonData.yaml#/components/responses/503'
          default:
            $ref: 'TS29122_CommonData.yaml#/components/responses/default'

  /ue2ue-session-performance/fetch:
    post:
      description: >
        Obtain the UE-to-UE session performance analytics.
      operationId: FetchUe2UeSessionPerformance
      tags:
        - Fetch UE-to-UE session performance analytics
      requestBody:
        required: true
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/Ue2UePerfReq'
      responses:
        '200':
          description: >
            Successful case. The UE-to-UE session performance information is returned in
            the response body.
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/Ue2UePerfResp'
        '307':
          $ref: 'TS29122_CommonData.yaml#/components/responses/307'
        '308':
          $ref: 'TS29122_CommonData.yaml#/components/responses/308'
        '400':
          $ref: 'TS29122_CommonData.yaml#/components/responses/400'
        '401':
          $ref: 'TS29122_CommonData.yaml#/components/responses/401'
        '403':
          $ref: 'TS29122_CommonData.yaml#/components/responses/403'
        '404':
          $ref: 'TS29122_CommonData.yaml#/components/responses/404'
        '411':
          $ref: 'TS29122_CommonData.yaml#/components/responses/411'
        '413':
          $ref: 'TS29122_CommonData.yaml#/components/responses/413'
        '415':
          $ref: 'TS29122_CommonData.yaml#/components/responses/415'
        '429':
          $ref: 'TS29122_CommonData.yaml#/components/responses/429'
        '500':
          $ref: 'TS29122_CommonData.yaml#/components/responses/500'
        '503':
          $ref: 'TS29122_CommonData.yaml#/components/responses/503'
```

```
              default:
                $ref: 'TS29122_CommonData.yaml#/components/responses/default'

  /edge-load:
    post:
      description: >
        Creates a new individual edge load data collection event subscription.
      operationId: EdgeLoadDataCollectionSubscription
      tags:
        - Edge load data collection event subscriptions (Collection)
      requestBody:
        required: true
        content:
          application/json:
            schema:
              $ref: 'TS29549_SS_ADAE_EdgeLoadAnalytics.yaml#/components/schemas/EdgeSub'
      callbacks:
        notificationUri:
          '{$request.body#/notifUri}':
            post:
              requestBody:
                required: true
                content:
                  application/json:
                    schema:
                      $ref: 'TS29549_SS_ADAE_EdgeLoadAnalytics.yaml#/components/schemas/EdgeNotif'
              responses:
                '204':
                  description: No Content (successful notification)
                '307':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/307'
                '308':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/308'
                '400':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/400'
                '401':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/401'
                '403':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/403'
                '404':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/404'
                '411':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/411'
                '413':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/413'
                '415':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/415'
                '429':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/429'
                '500':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/500'
                '503':
                  $ref: 'TS29122_CommonData.yaml#/components/responses/503'
                default:
                  $ref: 'TS29122_CommonData.yaml#/components/responses/default'
      responses:
        '201':
          description: Edge load data collection event subscription resource created successfully.
          content:
            application/json:
              schema:
                $ref: 'TS29549_SS_ADAE_EdgeLoadAnalytics.yaml#/components/schemas/EdgeSub'
          headers:
            Location:
              description: Contains the URI of the newly created resource.
              required: true
              schema:
                type: string
        '400':
          $ref: 'TS29122_CommonData.yaml#/components/responses/400'
        '401':
          $ref: 'TS29122_CommonData.yaml#/components/responses/401'
        '403':
          $ref: 'TS29122_CommonData.yaml#/components/responses/403'
        '404':
          $ref: 'TS29122_CommonData.yaml#/components/responses/404'
        '411':
          $ref: 'TS29122_CommonData.yaml#/components/responses/411'
```

```
            '413':
              $ref: 'TS29122_CommonData.yaml#/components/responses/413'
            '415':
              $ref: 'TS29122_CommonData.yaml#/components/responses/415'
            '429':
              $ref: 'TS29122_CommonData.yaml#/components/responses/429'
            '500':
              $ref: 'TS29122_CommonData.yaml#/components/responses/500'
            '503':
              $ref: 'TS29122_CommonData.yaml#/components/responses/503'
            default:
              $ref: 'TS29122_CommonData.yaml#/components/responses/default'

  /edge-load/{edgeLdId}:
    delete:
      description: Deletes an individual edge load data collection event subscription.
      operationId: DeleteIndEdgeLdDataCollectEventSubsc
      tags:
        - Individual edge load data collection event subscription
      parameters:
        - name: edgeLdId
          in: path
          description: Identifier of an individual edge load data collection event subscription.
          required: true
          schema:
            type: string
      responses:
        '204':
          description: >
            The individual edge load data collection subscription matching the edgeLdId is deleted.
        '307':
          $ref: 'TS29122_CommonData.yaml#/components/responses/307'
        '308':
          $ref: 'TS29122_CommonData.yaml#/components/responses/308'
        '400':
          $ref: 'TS29122_CommonData.yaml#/components/responses/400'
        '401':
          $ref: 'TS29122_CommonData.yaml#/components/responses/401'
        '403':
          $ref: 'TS29122_CommonData.yaml#/components/responses/403'
        '404':
          $ref: 'TS29122_CommonData.yaml#/components/responses/404'
        '429':
          $ref: 'TS29122_CommonData.yaml#/components/responses/429'
        '500':
          $ref: 'TS29122_CommonData.yaml#/components/responses/500'
        '503':
          $ref: 'TS29122_CommonData.yaml#/components/responses/503'
        default:
          $ref: 'TS29122_CommonData.yaml#/components/responses/default'

  /service-experience:
    post:
      description: >
        Configures the ADAEC triggers for service experience reporting.
      operationId: ConfigTriggerServExpReporting
      tags:
        - Configuration for service experience reporting (Collection)
      requestBody:
        required: true
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/ConfigRepTrigger'
      callbacks:
        serExpNotificationUri:
          '{$request.body#/notifUri}':
            post:
              requestBody:
                required: true
                content:
                  application/json:
                    schema:
                      $ref: '#/components/schemas/SrvExpInfoRep'
              responses:
                '204':
                  description: No Content (successful notification)
                '307':
```

```
                                $ref: 'TS29122_CommonData.yaml#/components/responses/307'
                          '308':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/308'
                          '400':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/400'
                          '401':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/401'
                          '403':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/403'
                          '404':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/404'
                          '411':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/411'
                          '413':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/413'
                          '415':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/415'
                          '429':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/429'
                          '500':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/500'
                          '503':
                            $ref: 'TS29122_CommonData.yaml#/components/responses/503'
                          default:
                            $ref: 'TS29122_CommonData.yaml#/components/responses/default'
                responses:
                  '201':
                    description: Triggers for service experience reporting configured successfully.
                    content:
                      application/json:
                        schema:
                          $ref: '#/components/schemas/ConfigRepTrigger'
                    headers:
                      Location:
                        description: Contains the URI of the newly created resource.
                        required: true
                        schema:
                          type: string
                  '400':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/400'
                  '401':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/401'
                  '403':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/403'
                  '404':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/404'
                  '411':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/411'
                  '413':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/413'
                  '415':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/415'
                  '429':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/429'
                  '500':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/500'
                  '503':
                    $ref: 'TS29122_CommonData.yaml#/components/responses/503'
                  default:
                    $ref: 'TS29122_CommonData.yaml#/components/responses/default'

  /service-experience/{srvTrigId}:
    delete:
      description: Abolish configured triggers for service experience reporting.
      operationId: DeleteTriggerSrvExpReporting
      tags:
        - Individual configured trigger for service experience reporting
      parameters:
        - name: srvTrigId
          in: path
          description: Identifier of an individual triger-configured service experience reporting.
          required: true
          schema:
            type: string
      responses:
        '204':
          description: >
            The individual trigger-configured service experiment reporting matching
```

```
              the srvTrigId is deleted.
          '307':
            $ref: 'TS29122_CommonData.yaml#/components/responses/307'
          '308':
            $ref: 'TS29122_CommonData.yaml#/components/responses/308'
          '400':
            $ref: 'TS29122_CommonData.yaml#/components/responses/400'
          '401':
            $ref: 'TS29122_CommonData.yaml#/components/responses/401'
          '403':
            $ref: 'TS29122_CommonData.yaml#/components/responses/403'
          '404':
            $ref: 'TS29122_CommonData.yaml#/components/responses/404'
          '429':
            $ref: 'TS29122_CommonData.yaml#/components/responses/429'
          '500':
            $ref: 'TS29122_CommonData.yaml#/components/responses/500'
          '503':
            $ref: 'TS29122_CommonData.yaml#/components/responses/503'
          default:
            $ref: 'TS29122_CommonData.yaml#/components/responses/default'

  /service-experience/push:
    post:
      description: >
        Configure ADAE client to push service experience report to the ADAE server.
      operationId: PushSrvExpReport
      tags:
        - Push service experienec report
      requestBody:
        required: true
        content:
          application/json:
            schema:
              $ref: 'TS29122_CommonData.yaml#/components/schemas/Uri'
      responses:
        '200':
          description: >
            Successful case. The ADAE client pushes service experience reporting to the ADAE server.
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/SrvExpInfoRep'
        '307':
          $ref: 'TS29122_CommonData.yaml#/components/responses/307'
        '308':
          $ref: 'TS29122_CommonData.yaml#/components/responses/308'
        '400':
          $ref: 'TS29122_CommonData.yaml#/components/responses/400'
        '401':
          $ref: 'TS29122_CommonData.yaml#/components/responses/401'
        '403':
          $ref: 'TS29122_CommonData.yaml#/components/responses/403'
        '404':
          $ref: 'TS29122_CommonData.yaml#/components/responses/404'
        '411':
          $ref: 'TS29122_CommonData.yaml#/components/responses/411'
        '413':
          $ref: 'TS29122_CommonData.yaml#/components/responses/413'
        '415':
          $ref: 'TS29122_CommonData.yaml#/components/responses/415'
        '429':
          $ref: 'TS29122_CommonData.yaml#/components/responses/429'
        '500':
          $ref: 'TS29122_CommonData.yaml#/components/responses/500'
        '503':
          $ref: 'TS29122_CommonData.yaml#/components/responses/503'
        default:
          $ref: 'TS29122_CommonData.yaml#/components/responses/default'

  /service-experience/pull:
    post:
      description: >
        ADAE server pulls service experience report from the ADAE client.
      operationId: PullSrvExpReport
      tags:
        - Pull service experienec report
      requestBody:
```

```
              required: true
              content:
                application/json:
                  schema:
                    $ref: '#/components/schemas/PullSrvExpInfo'
      responses:
        '200':
          description: >
            Successful case. The ADAE client provides service experience reporting to
            the ADAE server.
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/SrvExpInfoRep'
        '307':
          $ref: 'TS29122_CommonData.yaml#/components/responses/307'
        '308':
          $ref: 'TS29122_CommonData.yaml#/components/responses/308'
        '400':
          $ref: 'TS29122_CommonData.yaml#/components/responses/400'
        '401':
          $ref: 'TS29122_CommonData.yaml#/components/responses/401'
        '403':
          $ref: 'TS29122_CommonData.yaml#/components/responses/403'
        '404':
          $ref: 'TS29122_CommonData.yaml#/components/responses/404'
        '411':
          $ref: 'TS29122_CommonData.yaml#/components/responses/411'
        '413':
          $ref: 'TS29122_CommonData.yaml#/components/responses/413'
        '415':
          $ref: 'TS29122_CommonData.yaml#/components/responses/415'
        '429':
          $ref: 'TS29122_CommonData.yaml#/components/responses/429'
        '500':
          $ref: 'TS29122_CommonData.yaml#/components/responses/500'
        '503':
          $ref: 'TS29122_CommonData.yaml#/components/responses/503'
        default:
          $ref: 'TS29122_CommonData.yaml#/components/responses/default'

components:
  securitySchemes:
    oAuth2ClientCredentials:
      type: oauth2
      flows:
        clientCredentials:
          tokenUrl: '{tokenUrl}'
          scopes: {}

  schemas:
    Ue2UePerfReq:
      description: ADAES requests ADAEC for the UE-to-UE session performance analytics.
      type: object
      properties:
        serverId:
          type: string
          description: String identifying the ADAE server
        analyticsId:
          type: string
          description: String identifying the UE-to-UE session analytics
        valUeIds:
          type: array
          items:
            $ref: 'TS29549_SS_UserProfileRetrieval.yaml#/components/schemas/ValTargetUe'
          minItems: 1
          description: >
            One or more VAL UE IDs whose UE-to-UE session performance is requested.
        pc5Qos:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/Pc5QoSPara'
        reportConfig:
          $ref: 'TS29523_Npcf_EventExposure.yaml#/components/schemas/ReportingInformation'
        area:
          $ref: 'TS29122_CommonData.yaml#/components/schemas/LocationArea'
        timeWindow:
          $ref: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
      required:
        - serverId
```

```
        - analyticsId
        - valUeIds
        - pc5Qos

  Ue2UePerfResp:
    description: >
      ADAEC responds to ADAES with the UE-to-UE session performance analytics information.
    type: object
    properties:
      dataOutputs:
        type: array
        items:
          type: string
        minItems: 1
        description: >
          UE-to-UE session performance analytics for prediction or statistics.
      valUeIds:
        type: array
        items:
          $ref: 'TS29549_SS_UserProfileRetrieval.yaml#/components/schemas/ValTargetUe'
        minItems: 1
        description: >
          One or more VAL UE IDs whose UE-to-UE session performance has been requested.
      analyticsId:
        type: string
        description: String identifying the UE-to-UE session analytics
    required:
      - dataOutputs
      - valUeIds
      - analyticsId

  ConfigRepTrigger:
    description: Configures the ADAEC triggers for service experience reporting.
    type: object
    properties:
      valServSpecCrit:
        $ref: '#/components/schemas/ValServSpecCrit'
      commonTriggCrit:
        $ref: '#/components/schemas/SrvExpRepCrit'
      srvExpMeas:
        $ref: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
      notifyTarget:
        type: string
        description: the target address which is notified.
    required:
      - valServSpecCrit

  ValServSpecCrit:
    description: String identifying the ADAE server.
    type: object
    properties:
      valServerIds:
        type: array
        description: VAL servers for which configuration of service experience report applies.
        items:
          type: string
        minItems: 1
      triggCrit:
        $ref: '#/components/schemas/SrvExpRepCrit'
    required:
      - valServerIds
      - triggCrit

  PullSrvExpInfo:
    description: Contains VAL server and service identities.
    type: object
    properties:
      valServerId:
        type: string
      valServiceId:
        type: string
    required:
      - valServerId

  SrvExpInfoRep:
    description: Allows ADAEC to provide the service experience report to the ADAES.
    type: object
    properties:
```

```
      valUeId:
        $ref: 'TS29549_SS_UserProfileRetrieval.yaml#/components/schemas/ValTargetUe'
      valServerId:
        type: string
        description: String identifying the VAL server the service experience report applies.
      valServiceId:
        type: string
        description: String identifying the VAL service
      timeStamp:
        $ref: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
      valSrvExpRep:
        $ref: 'TS29523_Npcf_EventExposure.yaml#/components/schemas/ReportingInformation'
    required:
      - valUeId
      - valServerId

# Simple data types and Enumerations

    SrvExpRepCrit:
      anyOf:
      - type: string
        enum:
          - TRIGGER_CRITERIA
          - COMMON_TRIGGER_CRITERIA
      - type: string
        description: >
          This string provides forward-compatibility with future
          extensions to the enumeration but is not used to encode
          content defined in the present version of this API.
      description: |
        Represents information criteria to trigger service experience reporting.
        Possible values are:
        - TRIGGER_CRITERIA: Information criteria that can trigger service experience
            reporting to a VAL server.
        - COMMON_TRIGGER_CRITERIA: Information criteria that can trigger service experience
            reporting to all VAL servers.
```

Annex B (informative):
Change history

Change history							
Date	**Meeting**	**TDoc**	**CR**	**Rev**	**Cat**	**Subject/Comment**	**New version**
2023-02	CT1#140	C1-230160				Skeleton for Application Data Analytics Enablement Service	0.0.0
2023-05	CT1#142	C1-233310				Application data analytics enablement service abbreviations and refences	0.1.0
2023-05	CT1#142	C1-234031				Application data analytics enablement service functional entities	0.1.0
2023-05	CT1#142	C1-234032				Application data analytics enablement service procedures	0.1.0
2023-05	CT1#142	C1-234033				Application data analytics enablement service procedures	0.1.0
2023-10	CT1#144	C1-237009				Correction of general description	0.2.0
2023-10	CT1#144	C1-237962				ADAES configuration API	0.2.0
2023-10	CT1#144	C1-237963				Application performance analytics configuration API	0.2.0
2023-10	CT1#144	C1-237964				Procedure for application performance analytics	0.2.0
2023-11	CT1#145	C1-239589				Resource review for ADAE services	0.3.1
2023-11	CT1#145	C1-239666				Application performance event subscription for ADAE services	0.3.1
2023-11	CT1#145	C1-239672				UE-to-UE session performance for ADAE services	0.3.1
2023-11	CT1#145	C1-239673				Edge load event subscription for ADAE services	0.3.1
2023-11	CT1#145	C1-239588				Service experience for ADAE services	0.3.1
2023-11	CT1#145	C1-239674				Application performance event notification for ADAE services	0.3.1
2023-11	CT1#145	C1-239675				Edge load event notification for ADAE services	0.3.1
2023-11	CT1#145	C1-239586				Data model for ADAE services	0.3.1
2023-11	CT1#145	C1-239587				Error handling for ADAE services	0.3.1
2023-11	CT1#145	C1-239477				Notification overview for ADAE services	0.3.1
2024-01	CT1#146	C1-240300				Add references	0.4.0
2024-01	CT1#146	C1-240301				Corrections and removal of some titles	0.4.0
2024-01	CT1#146	C1-240302				Restructuring of resource URI for ADAES	0.4.0
2024-01	CT1#146	C1-240303				Service description and operations for application performance analytics	0.4.0
2024-01	CT1#146	C1-240304				Service description and operations for UE-to-UE session performance analytics	0.4.0
2024-01	CT1#146	C1-240305				Service description and operations for edge load data collection	0.4.0
2024-01	CT1#146	C1-240306				Service description and operations for service-experiment	0.4.0
2024-01	CT1#146	C1-240307				Usage of HTTP, common API framework, and security	0.4.0
2024-01	CT1#146	C1-240308				ADAE service configuration OpenAPI	0.4.0
2024-03	CT1#147	C1-241600				Miscellaneous corrections	0.5.0
2024-03	CT1#147	C1-241601				Miscellaneous corrections	0.5.0
2024-03	CT1#147	C1-241602				OpenAPI corrections	0.5.0
2024-03	CT1#147	C1-241603				Description of functional entities	0.5.0
2024-03	CT1#147	C1-241604				Usage of HTTP	0.5.0
2024-03	CT1#147	C1-241605				Update the configuring triggers and PUSH service experience information report procedures	0.5.0
2024-03	CT#103	CP-240251				Presentation to TSG CT#103 for information and approval	1.0.0
2024-03	CT#103					Approved in CT#103	18.0.0
2024-03	CT#103					YAML files that were missing in previous version included	18.1.0

History

Document history		
V18.1.0	May 2024	Publication