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Contents

Foreword

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

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  - 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

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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 describes the stage 3 protocol and data model for the N5g-eir Service Based Interface between the 5G-EIR and its consumers over which the service to check the equipment identity as described in 3GPP TS 23.501 [2] is performed. It provides the stage 3 protocol definitions and message flows, and specifies the API for each service offered by the 5G-EIR.

The 5G System stage 2 architecture and procedures are specified in 3GPP TS 23.501 [2] and 3GPP TS 23.502 [3].

The Technical Realization of the Service Based Architecture and the Principles and Guidelines for Services Definition are specified in 3GPP TS 29.500 [4] and 3GPP TS 29.501 [5].

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 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[3] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[4] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

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

[6] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[7] IETF RFC 7540: "Hypertext Transfer Protocol Version 2 (HTTP/2)".

[8] OpenAPI Initiative, "OpenAPI 3.0.0 Specification", https://github.com/OAI/OpenAPI-Specification/blob/master/versions/3.0.0.md.

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

[10] IETF RFC 7807: "Problem Details for HTTP APIs".

[11] 3GPP TS 33.501: "Security Architecture and Procedures for 5G System".

[12] IETF RFC 6749: "The OAuth 2.0 Authorization Framework".

[13] 3GPP TS 29.510: "5G System; Network Function Repository Services; Stage 3".

[14] 3GPP TR 21.900: "Technical Specification Group working methods".

[15] 3GPP TS 29.524: "5G System; Cause codes mapping between 5GC interfaces; Stage 3".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] 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 [1].

N5g-eir: Service-based interface exhibited by 5G-EIR

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] 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 [1].

5G-EIR	5G-Equipment Identity Register
EIR	Equipment Identity Register
PEI	Permanent Equipment Identifier

4 Overview

4.1 Introduction

N5g-eir is a Service-based interface exhibited by 5G-EIR (5G-Equipment Identity Register) which is an optional network function that supports the following functionality:

- Check the status of Equipment's identity (e.g. to check that it has not been blacklisted).

The reference point N17 (see Fig 4-1 below) shows the interaction between the 5G-Equipment Identity Register 5G-EIR and the AMF (Access and Mobility Management Function) enabling the check of the status of the mobile equipment identity.

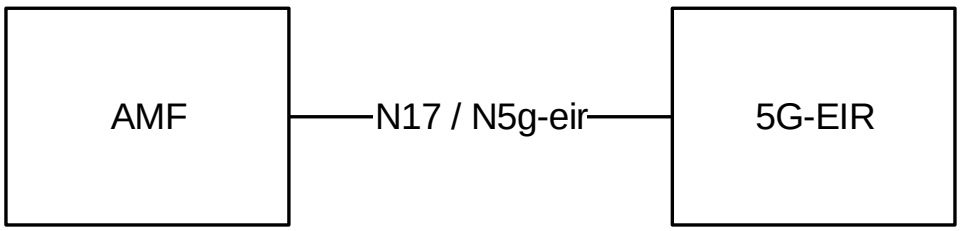

Figure 4-1: Reference Model – N5g-eir

During any procedure establishing a signalling connection with the UE the network may optionally perform an ME identity check with 5G-EIR via the N5g-eir_Equipment Identity Check Service exhibited by 5G-EIR.

5 Services offered by the 5G-EIR NF

5.1 Introduction

The following NF service is offered by the N5g-eir to check the ME whether it is black-listed or not:

- N5g-eir_EquipmentIdentityCheck

Table 5.1-1: NF Services provided by 5G-EIR

Service Name	Description	Consumer
N5g-eir_EquipmentIdentityCheck	This service offered by the 5G-EIR allows the consumer to check the Permanent Equipment Identifier (PEI) and check whether the PEI is in the black list or not.	AMF

The N5g-eir_Equipment Identity Check service is specified in 3GPP TS 23.502 [3], clause 4.2.2.2.2

Table 5.1-2 summarizes the corresponding APIs defined for this specification.

Table 5.1-2: API Descriptions

Service Name	Clause	Description	OpenAPI Specification File	apiName	Annex
N5g-eir_EquipmentIdentityCheck	6.1	5G-EIR Equipment Identity Check Service	TS29511_N5g-eir_EquipmentIdentityCheck.yaml	n5g-eir-eic	A.2

The N5g-eir_Equipment Identity Check service is specified in 3GPP TS 23.502 [3], clause 4.2.2.2.2

5.2 N5g-eir_EquipmentIdentityCheck Service

5.2.1 Service Description

The N5g-eir_Equipment Identity Check service is provided by the 5G-EIR to check the Permanent Equipment Identifier (PEI) whether it is in the black list or not. The service can be consumed by AMF which initiates ME identity check by invoking the N5g-eirEquipmentIdentityCheckGet service operation (see clause 5.2.4.2. of 3GPP TS 23.502 [3]).

During the initial registration the Permanent Equipment Identifier is obtained from the UE. The AMF operator may check the PEI with an EIR.

5.2.2 Service Operations

5.2.2.1 Introduction

5.2.2.2 CheckEquipmentIdentity

5.2.2.2.1 General

The CheckEquipmentIdentity operation shall be used to check the PEI and determine whether the subscriber is allowed to use the equipment, in the following procedures:

- ME Identity check procedure (see clause 4.7 of 3GPP TS 23.502 [3]);

5.2.2.2.2 Procedure using CheckEquipmentIdentity Operation

The NF Service Consumer (e.g. AMF) shall check the PEI by using the HTTP GET method as shown in Figure 5.2.2.2.2-1.

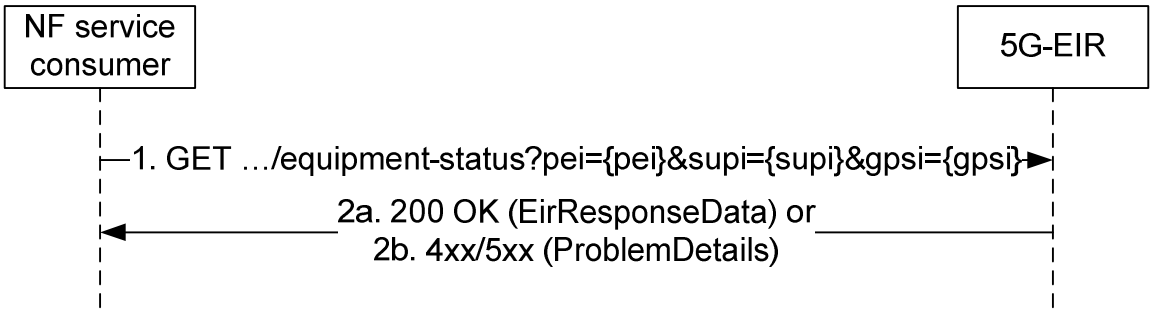

Figure 5.2.2.2.2-1: PEI status check by the NF Service Consumer

1. The NF Service Consumer (e.g. AMF) sends a GET request to the resource representing the PEI equipment Status. It shall include the PEI as a query parameter and, optionally, the SUPI and/or GPSI may also be included.

2a. On success, "200 OK" with the message body containing the equipment status of the PEI.

2b. If the PEI is not known, "404 Not Found" with the message body containing a ProblemDetails object, with the "details" attribute set to "ERROR_EQUIPMENT_UNKNOWN". When receiving the response from the 5G-EIR, the NF Service Consumer (e.g. AMF) shall check the equipment Status and the detailed problem. Dependent upon the result, the NF Service Consume will decide its subsequent actions (e.g. sending a Registration Reject if the 5G-EIR indicates that the PEI is unknown or blacklisted).

The definition of the equipment-status resource is specified in clause 6.1.3.

6 API Definitions

6.1 N5g-eir_EquipmentIdentityCheck Service API

6.1.1 API URI

URIs of this API shall have the following root:

{apiRoot}/{apiName}/{apiVersion}/

where "apiRoot" is defined in clause 4.4.1 of 3GPP TS 29.501 [5], the "apiName" shall be set to "n5g-eir-eic" and the "apiVersion" shall be set to "v1" for the current version of this specification.

6.1.2 Usage of HTTP

6.1.2.1 General

HTTP/2, as defined in IETF RFC 7540 [7], shall be used as specified in clause 5 of 3GPP TS 29.500 [4].

HTTP/2 shall be transported as specified in clause 5.3 of 3GPP TS 29.500 [4].

HTTP messages and bodies for the N5g-eir_EquipmentIdentityCheck Service shall comply with the OpenAPI [8] specification contained in Annex A.

6.1.2.2 HTTP standard headers

6.1.2.2.1 General

The usage of HTTP standard headers shall be supported as specified in clause 5.2.2 of 3GPP TS 29.500 [4].

6.1.2.2.2 Content type

The following content types shall be supported:

- JSON, as defined in IETF RFC 8259 [9]. The use of the JSON format shall be signalled by the content type "application/json". See also clause 5.4 of 3GPP TS 29.500 [4].
- The Problem Details JSON Object (IETF RFC 7807 [10]. The use of the Problem Details JSON object in a HTTP response body shall be signalled by the content type "application/problem+json".

6.1.2.3 HTTP custom headers

6.1.2.3.1 General

In this release of this specification, no custom headers specific to the N5g-eir_EquipmentIdentityCheck Service are defined. For 3GPP specific HTTP custom headers used across all service based interfaces, see clause 5.2.3 of 3GPP TS 29.500 [4].

6.1.3 Resources

6.1.3.1 Overview

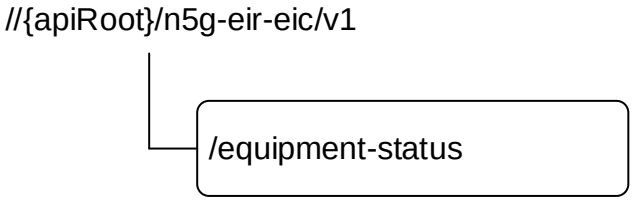

Figure 6.1.3.1-1: Resource URI structure of the n5g-eir-eic API

Table 6.1.3.1-1 provides an overview of the resources and applicable HTTP methods.

Table 6.1.3.1-1: Resources and methods overview

Resource name	Resource URI	HTTP method or custom operation	Description
equipmentStatus	/equipment-status	GET	Retrieve the equipment status of the PEI

6.1.3.2 Resource: equipmentStatus

6.1.3.2.1 Description

This resource represents the equipmentStatus for a PEI.

6.1.3.2.2 Resource Definition

Resource URI: {apiRoot}/n5g-eir-eic/v1/equipment-status

This resource shall support the resource URI variables defined in table 6.1.3.2.2-1.

Table 6.1.3.2.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See clause 6.1.1

6.1.3.2.3 Resource Standard Methods

6.1.3.2.3.1 GET

This method shall support the URI query parameters specified in table 6.1.3.2.3.1-1.

Table 6.1.3.2.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
pei	Pei	M	1	The PEI of the UE shall be included for equipment identify checking
supi	Supi	O	0..1	The SUPI of the UE
gpsi	Gpsi	O	0..1	The GPSI of the UE

This method shall support the request data structures specified in table 6.1.3.2.3.1-2 and the response data structures and response codes specified in table 6.1.3.2.3.1-3.

Table 6.1.3.2.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.1.3.2.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
EirResponseData	M	1	200 OK	Upon success, a response body containing the Equipment Status shall be returned
ProblemDetails	O	0..1	404 Not Found	The equipment identify checking has failed. The "cause" attribute may be used to indicate one of the following application errors: - ERROR_EQUIPMENT_UNKNOWN See table 6.1.5.3-1 for the description of this error.

6.1.4 Data Model

6.1.4.1 General

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

Table 6.1.4.1-1 specifies the data types defined for the n5g-eir-eic service based interface protocol.

Table 6.1.4.1-1: n5g-eir-eic specific Data Types

Data type	Clause defined	Description
EirResponseData	6.1.4.2.2	
EquipmentStatus	6.1.4.3.3	Equipment status of the PEI, this data type is string.

Table 6.1.6.1-2 specifies data types re-used by the $N_{<NF>}$ service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the $N_{<NF>}$ service based interface.

Table 6.1.4.1-2: 5g-eir-eic re-used Data Types

Data type	Reference	Comments
Pei	3GPP TS 29.571[6]	Data type representing the PEI of the UE.
Supi	3GPP TS 29.571 [6]	Data type representing the SUPI of the subscriber. pattern: See pattern of type Supi in 3GPP TS 29.571 [6]
ProblemDetails	3GPP TS 29.571 [6]	Common data type for error responses
Gpsi	3GPP TS 29.571 [6]	Data type representing the GPSI of the subscriber.

6.1.4.2 Structured data types

6.1.4.2.1 Introduction

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

6.1.4.2.2 Type: EirResponseData

Table 6.1.4.2.2-1: Definition of type EirResponseData

Attribute name	Data type	P	Cardinality	Description
status	EquipmentStatus	M	1	Status of the UE

6.1.4.3 Simple data types and enumerations

6.1.4.3.1 Introduction

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

6.1.4.3.2 Simple data types

The simple data types defined in table 6.1.4.3.2-1 shall be supported.

Table 6.1.4.3.2-1: Simple data types

Type Name	Type Definition	Description
	<one simple data type, e.g. boolean, integer, null, number, string>	

6.1.4.3.3 Enumeration: EquipmentStatus

Table 6.1.4.3.3-1: Enumeration EquipStatus

Enumeration value	Description
"WHITELISTED"	Indicates the PEI is whitelisted
"BLACKLISTED"	Indicates the PEI is blacklisted
"GREYLISTED"	Indicates the PEI is greylisted

6.1.5 Error Handling

6.1.5.1 General

HTTP error handling shall be supported as specified in clause 5.2.4 of 3GPP TS 29.500 [4].

The Cause codes mapping performed by AMF between the following HTTP responses returned by the EIR services to the AMF and the 5GMM related values is specified in clause 4.5.2 of 3GPP TS 29.524 [15].

6.1.5.2 Protocol Errors

Protocol Error Handling shall be supported as specified in clause 5.2.7 of 3GPP TS 29.500 [4].

6.1.5.3 Application Errors

The common application errors defined in the Table 5.2.7.2-1 in 3GPP TS 29.500 [4] may also be used for the N5g-eir_EquipmentIdentityCheck service, and the following application errors listed in Table 6.1.5.3-1 are specific for the N5g-eir_EquipmentIdentityCheck service.

Table 6.1.5.3-1: Application errors

Application Error	HTTP status code	Description
ERROR_EQUIPMENT_UNKNOWN	404 Not Found	Indicate the mobile equipment is not known in the EIR.

6.1.6 Feature Negotiation

N/A

6.1.7 Security

6.1.7.1 General

The security mechanisms for service based interfaces are specified in clause 13 of 3GPP TS 33.501 [11] and in clause 6.7.3 of 3GPP TS 29.500 [4]. The access to the N5g-eir_EquipmentIdentityCheck API may be authorized by means of the OAuth2 protocol (see IETF RFC 6749 [12]), based on local configuration, using the "Client Credentials" authorization grant, where the NRF (see 3GPP TS 29.510 [13]) plays the role of the authorization server.

The N5g-eir_EquipmentIdentityCheck API defines scopes for OAuth2 authorization as specified in 3GPP TS 33.501 [11]; it defines a single scope consisting on the name of the service (i.e., "n5g-eir-eic"), and it does not define any additional scopes at resource or operation level.

Security Protection Edge Proxy (SEPP), as specified in 3GPP TS 33.501 [11], shall be used between service based interfaces across PLMNs. The NFs in a PLMN shall use the SEPP as a HTTP/2 proxy for the HTTP/2 messages that carry ":authority" pseudo header with a uri-host formatted as specified in clause 6.1.4.3 of 3GPP TS 29.500 [4]

6.1.7.2 Transport Layer Security Protection of Messages

As specified in clause 13.1 of 3GPP TS 33.501 [11], TLS shall be used for the security protection of messages at the transport layer for the N5g-eir service based interface if network security is not provided by other means.

The protocol stack for the N5g-eir service based interface is shown on Figure 6.1.7.2-1.

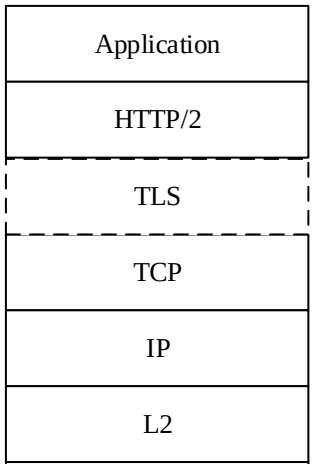

Figure 6.1.7.2-1: SBI Protocol Stack

The N5g-eir service based interface uses HTTP/2 protocol (see clause 5.2) with JSON (see clause 5.4) as the application layer serialization protocol. For the security protection at the transport layer, 5G-EIR NF shall support TLS and TLS shall be used within a PLMN if network security is not provided by other means, as specified in 3GPP TS 33.501 [11].

6.1.7.3 Authorization of 5G-EIR NF Service Access

As specified in clause 13.4.1 of 3GPP TS 33.501 [11] OAuth 2.0 (see IETF RFC 6749 [12]) may be used for authorization of N5g-eir_EquipmentIdentityCheck service access. The 5G-EIR NF and the NRF (as defined in 3GPP TS 29.510 [13]) shall support the OAuth 2.0 authorization framework with "Client Credentials" grant type as specified in clause 4.4 of IETF RFC 6749 [12]. The NRF shall act as the Authorization Server providing the access tokens to the NF service consumers to access the service provided by the 5G-EIR. If the 5G-EIR NF receives an OAuth 2.0 authorization token in the "Authorization" HTTP request header field, the N5g-eir_EquipmentIdentityCheck service shall validate the access token, its expiry and its access scope before allowing access to the requested resource, as specified in clause 7 of IETF RFC 6749 [12].

Annex A (normative): OpenAPI specification

A.1 General

This Annex specifies the formal definition of the N5g-eir_EquipmentIdentityCheck Service API. It consists of an OpenAPI 3.0.0 specification, in YAML format.

This Annex takes 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 : 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 3GPP TS 29.501 [5] clause 5.3.1 and 3GPP TR 21.900 [14] clause 5B).

A.2 N5g-eir_EquipmentIdentityCheck Service API

```
openapi: 3.0.0

info:
  version: '1.1.0'
  title: '5G-EIR Equipment Identity Check'

  description: |
    5G-EIR Equipment Identity Check Service.
    © 2020, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).
    All rights reserved.

externalDocs:
  description: 3GPP TS 29.511 V16.2.0; 5G System; Equipment Identity Register Services; Stage 3
  url: 'http://www.3gpp.org/ftp/Specs/archive/29_series/29.511/'


servers:
  - url: '{apiRoot}/n5g-eir-eic/v1'
    variables:
      apiRoot:
        default: https://example.com
        description: apiRoot as defined in clause clause 4.4 of 3GPP TS 29.501

security:
  - {}
  - oAuth2ClientCredentials:
      - n5g-eir-eic

paths:
  /equipment-status:
    get:
      summary: Retrieves the status of the UE
      operationId: GetEquipmentStatus
      tags:
        - Equipment Status (Document)
      parameters:
        - name: pei
          in: query
          description: PEI of the UE
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Pei'
        - name: supi
          in: query
          description: SUPI of the UE
          required: false
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
        - name: gpsi
          in: query
          description: GPSI of the UE
          required: false
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/EirResponseData'
        '400':
          $ref: 'TS29571_CommonData.yaml#/components/responses/400'
        '401':
          $ref: 'TS29571_CommonData.yaml#/components/responses/401'
        '404':
          description: PEI Not Found
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
        '414':
          $ref: 'TS29571_CommonData.yaml#/components/responses/414'
        '429':
          $ref: 'TS29571_CommonData.yaml#/components/responses/429'
```

```
        '500':
          $ref: 'TS29571_CommonData.yaml#/components/responses/500'
        '503':
          $ref: 'TS29571_CommonData.yaml#/components/responses/503'
        default:
          description: Unexpected error

components:
  securitySchemes:
    oAuth2ClientCredentials:
      type: oauth2
      flows:
        clientCredentials:
          tokenUrl: '{nrfApiRoot}/oauth2/token'
          scopes:
            n5g-eir-eic: Access to the N5g-eir_EquipmentIdentityCheck API
  schemas:
    EirResponseData:
      type: object
      required:
        - status
      properties:
        status:
            $ref: '#/components/schemas/EquipmentStatus'
    EquipmentStatus:
      type: string
      enum:
        - WHITELISTED
        - BLACKLISTED
        - GREYLISTED
```

Annex B (informative): Change history

Change history							
Date	**Meeting**	**TDoc**	**CR**	**Rev**	**Cat**	**Subject/Comment**	**New version**
2017-10	CT4#80	C4-175323				Initial Draft.	0.1.0
2017-10	CT4#80	C4-175396				At CT4#80 approved pCRs C4-175323, C4-175324, C4-175325, C4-175326 incorporated.	0.2.0
2017-12	CT4#81	C4-176439				At CT4#81 approved pCRs C4-176428, C4-176429 incorporated	0.3.0
2018-03	CT4#83	C4-182436				At CT4#83 approved pCRs C4-182368, C4-182369, C4-182384 incorporated.	0.4.0
2018-03	CT#79	CP-180032				Presented for information	1.0.0
2018-05	CT4#85	C4-184627				At CT4#85 approved pCRs C4-184475, C4-184476, C4-184628 incorporated.	1.1.0
2018-06	CT#80	CP-181106				Presented for approval	2.0.0
2018-06	CT#80					Approved in CT#80.	15.0.0
2018-09	CT#81	CP-182061	0001	-	F	Error Handling	15.1.0
2018-09	CT#81	CP-182061	0002	-	F	Description of Structured data types	15.1.0
2018-09	CT#81	CP-182061	0003	-	F	Update of Resource Figure	15.1.0
2018-09	CT#81	CP-182061	0004	-	F	API Version Number Update	15.1.0
2018-12	CT#82	CP-183178	0005	2	F	5G-EIR OpenAPI Updates	15.2.0
2018-12	CT#82	CP-183019	0007	-	F	APIRoot Clarification	15.2.0
2018-12	CT#82	CP-183019	0008	-	F	Common Status codes	15.2.0
2018-12	CT#82	CP-183019	0009	1	F	API Version Update	15.2.0
2018-12	CT#82	CP-183198	00010	1	F	Correction of "externalDocs" for N5g-eir_EquipmentIdentityCheck Service	15.2.0
2019-03	CT#83	CP-190024	0012	1	F	GPSI	15.3.0
2019-03	CT#83	CP-190024	0014	1	F	Reuse of data types in EIR OpenAPI	15.3.0
2019-03	CT#83	CP-190024	0015	-	F	API Version Update	15.3.0
2019-06	CT#84	CP-191035	0017	2	F	Storage of OpenAPI specification files	15.4.0
2019-06	CT#84	CP-191035	0018	-	F	Copyright Note in YAML file	15.4.0
2019-06	CT#84	CP-191035	0019	-	F	Wrong formatting in OpenAPI annex	15.4.0
2019-06	CT#84	CP-191035	0020	-	F	3GPP TS 29.511 API version update	15.4.0
2019-11	CT#84	CP-193036	0022	1	F	Add reference to TS 29.524	16.0.0
2019-12	CT#84	CP-193121	0024	-	F	ExternalDocs field and API version change in the OpenAPI	16.0.0
2020-03	CT#87e	CP-200039	0025	2	F	Add Corresponding API descriptions in clause 5.1	16.1.0
2020-03	CT#87e	CP-200039	0028	2	D	Editorial corrections	16.1.0
2020-03	CT#87e	CP-200020	0029	1	B	Optionality of ProblemDetails	16.1.0
2020-03	CT#87e	CP-200035	0030	-	B	SUPI pattern	16.1.0
2020-04	CT#88e	CP-201064	0032	1	F	Datatype column in Resource URI variables Table	16.2.0
2020-06	CT#88e	CP-201034	0033	-	B	Storage of YAML files	16.2.0
2020-06	CT#88e	CP-201332	0034	1	F	API Version and ExternalDoc Version Update	16.2.0
2020-12	CT#90e	CP-203035	0036	-	F	Storage of YAML files in 3GPP Forge	16.3.0

History

Document history		
V16.2.0	July 2020	Publication
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