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Modal verbs terminology

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).

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  - 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 stage 3 protocol and data model for common data types that are used or may be expected to be used by multiple Service Based Interface APIs supported by the same or different Network Function(s).

The Principles and Guidelines for Services Definition are specified in 3GPP TS 29.501 [2].

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

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

[4] IETF RFC 1166: "Internet Numbers".

[5] IETF RFC 5952: "A recommendation for IPv6 address text representation".

[6] IETF RFC 3986: "Uniform Resource Identifier (URI): Generic Syntax".

[7] 3GPP TS 23.003: "Numbering, addressing and identification".

[8] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

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

[10] IETF RFC 3339: "Date and Time on the Internet: Timestamps".

[11] 3GPP TS 38.413: "NG-RAN; NG Application Protocol (NGAP) ".

[12] IETF RFC 6901: "JavaScript Object Notation (JSON) Pointer".

[13] 3GPP TS 24.007: "Mobile radio interface signalling layer 3; General aspects".

[14] IETF RFC 6902: "JavaScript Object Notation (JSON) Patch".

[15] IETF RFC 4122: "A Universally Unique IDentifier (UUID) URN Namespace".

[16] 3GPP TS 36.413: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); S1 Application Protocol (S1AP)".

[17] IETF RFC 7042: "IANA Considerations and IETF Protocol and Documentation Usage for IEEE 802 Parameters".

[18] IETF RFC 6733: "Diameter Base Protocol".

[19] 3GPP TS 32.422: "Telecommunication management; Subscriber and equipment trace; Trace control and configuration management".

[20] 3GPP TS 24.501: "Non-Access-Stratum (NAS) Protocol for 5G System (5GS); Stage 3".

[21] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".

[22] Void.

[23] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".

[24] ITU-T Recommendation Q.763 (1999): "Specifications of Signalling System No.7; Formats and codes".

[25] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

[26] 3GPP TS 23.015: "Technical Realization of Operator Determined Barring".

[27] 3GPP TR 21.900: "Technical Specification Group working methods".

[28] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[29] 3GPP TS 29.510: "5G System; Network Function Repository Services; Stage 3".

[30] 3GPP TS 23.316: "Wireless and wireline convergence access support for the 5G System (5GS)".

[31] IEEE Std 802.11-2012: "IEEE Standard for Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications".

[32] CableLabs WR-TR-5WWC-ARCH: "5G Wireless Wireline Converged Core Architecture".

[33] 3GPP TS 23.401: "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access; Stage 2".

[34] BBF TR-069: "CPE WAN Management Protocol".

[35] BBF TR-369: "User Services Platform (USP)".

[36] 3GPP TS 23.287: "Architecture enhancements for 5G System (5GS) to support Vehicle-to-Everything (V2X) services".

[37] BBF TR-470: "5G Wireless Wireline Convergence Architecture".

[38] IEEE "Guidelines for Use of Extended Unique Identifier (EUI), Organizationally Unique Identifier (OUI), and Company ID (CID)", https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/tutorials/eui.pdf

[39] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification".

[40] IETF RFC 5580: "Carrying Location Objects in RADIUS and Diameter".

[41] BBF TR-456: "AGF Functional Requirements".

[42] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol specification".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 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].

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].

5GC	5G Core Network
DNAI	Data Network Access Identifier
EUI	Extended Unique Identifier
GPSI	Generic Public Subscription Identifier
GUAMI	Globally Unique AMF Identifier
HFC	Hybrid Fiber Coax
N5GC	Non-5G Capable
NSSAA	Network Slice- Specific Authentication and Authorization
PEI	Permanent Equipment Identifier
SBI	Service Based Interface
SUPI	Subscription Permanent Identifier

4 Overview

For the different 5GC SBI API, data types shall be defined. Data types identified as common data types shall be defined in this Technical specification and should be referenced from individual 5GC SBI API specifications.

Data types applicable or intended to be applicable to several 5GC SBI API specifications should be interpreted as common data types.

5 Common Data Types

5.1 Introduction

In the following clauses, common data types for the following areas are defined:

- Data types for generic usage;
- Data types for Subscription, Identification and Numbering;
- Data types related to 5G Network;
- Data types related to 5G QoS;
- Data types related to 5G Trace;
- Data types related to 5G ODBs.

5.2 Data Types for Generic Usage

5.2.1 Introduction

This clause defines common data types for generic usage.

5.2.1A Re-used Data Types

This clause specifies the re-used data types from other specifications.

Table 5.2.1A-1: Re-used Data Types

Data Type	Reference	Comments
Fqdn	3GPP TS 29.510 [29]	
NFType	3GPP TS 29.510 [29]	
ServiceName	3GPP TS 29.510 [29]	
DataSetId	3GPP TS 29.510 [29]	
PlmnSnssai	3GPP TS 29.510 [29]	

5.2.2 Simple Data Types

This clause specifies common simple data types.

Table 5.2.2-1: Simple Data Types