|  |
| --- |
| 3GPP TS 22.156 V0.0.0 (2023-07) |
| Technical Specification.  |
| 3rd Generation Partnership Project;Technical Specification Group TSG SA;Services and System Aspects;Mobile Metaverse Services; (Release 19) |
|   |
|  |  |
| The present document has been developed within the 3rd Generation Partnership Project (3GPP TM) and may be further elaborated for the purposes of 3GPP.The present document has not been subject to any approval process by the 3GPPOrganizational Partners and shall not be implemented.This Specification is provided for future development work within 3GPPonly. The Organizational Partners accept no liability for any use of this Specification.Specifications and Reports for implementation of the 3GPP TM system should be obtained via the 3GPP Organizational Partners' Publications Offices. |

|  |
| --- |
|  |
| ***3GPP***Postal address3GPP support office address650 Route des Lucioles - Sophia AntipolisValbonne - FRANCETel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16Internethttp://www.3gpp.org |
| ***Copyright Notification***No part may be reproduced except as authorized by written permission.The copyright and the foregoing restriction extend to reproduction in all media.© 2023, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).All rights reserved.UMTS™ is a Trade Mark of ETSI registered for the benefit of its members3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational PartnersLTE™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational PartnersGSM® and the GSM logo are registered and owned by the GSM Association |

Contents

Foreword 4

Introduction 5

1 Scope 6

2 References 6

3 Definitions of terms, symbols and abbreviations 6

3.1 Terms 6

3.2 Abbreviations 6

4 Overview 6

5. Functional requirements 7

5.1 Description 7

5.2 General requirements 8

5.2.1 General 8

5.2.2 Requirements 8

5.2.3 Security and privacy aspects of mobile metaverse service functionality 8

5.2.4 Charging requirements for mobile metaverse service functionality 8

5.3 Specific functional areas 8

5.3.1 Localized mobile metaverse service functionality 8

5.3.1.1 General 8

5.3.1.2 Requirements 8

5.3.2 Digital representation of users and avatar functionality 8

5.3.2.1 General 8

5.3.2.2 Requirements 8

5.3.3 Operational efficiency, exposure, and coordination of mobile metaverse functionality 8

5.3.3.1 General 8

5.3.3.2 Requirements 8

5.3.4 Digital asset management functionality 8

5.3.4.1 General 8

5.3.4.2 Requirements 8

6 Performance requirements 8

6.1 Description 8

6.2 Performance requirements 9

Annex <A> (informative): Avatars and avatar communication 9

Annex <B> (informative): Bibliography 10

Annex <C> (informative): Change history 11

# 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:

Version x.y.z

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.

Editor's Note: ------------------------- BEGIN 'Introduction' CONTRIBUTION -------------------------

# Introduction

Editor's Note: An introduction will be added here.

# 1 Scope

The present document …

# 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".

…

[x] <doctype> <#>[ ([up to and including]{yyyy[-mm]|V<a[.b[.c]]>}[onwards])]: "<Title>".

It is preferred that the reference to 21.905 be the first in the list.

# 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 [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].

Editor's Note: Initially, start with the definitions in TR 22.856.

## 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].

Editor's Note: Initially, start with the abbreviations in TR 22.856.

# 4 Overview

Editor's Note: it might be good to have an overview on the mobile metaverse service.

# 5. Functional requirements

## 5.1 Description

Editor's Note: describe the overall concept of a mobile metaverse service and how the subsections relate to each other. Do not imply that the subclauses covered here rule out further functions being defined in the future. This clause is intended as informative, containing no normative requirement.

## 5.2 General requirements

### 5.2.1 General

### 5.2.2 Requirements

### 5.2.3 Security and privacy aspects of mobile metaverse service functionality

### 5.2.4 Charging requirements for mobile metaverse service functionality

## 5.3 Specific functional areas

### 5.3.1 Localized mobile metaverse service functionality

#### 5.3.1.1 General

#### 5.3.1.2 Requirements

### 5.3.2 Digital representation of users and avatar functionality

#### 5.3.2.1 General

#### 5.3.2.2 Requirements

### 5.3.3 Operational efficiency, exposure, and coordination of mobile metaverse functionality

#### 5.3.3.1 General

#### 5.3.3.2 Requirements

### 5.3.4 Digital asset management functionality

#### 5.3.4.1 General

#### 5.3.4.2 Requirements

# 6 Performance requirements

## 6.1 Description

Editor's Note: Explain how the requirements refer to specific (non-normative) use cases, to give context and provide clarity to the KPIs in the next subclause. This clause is intended as informative, containing no normative requirement.

## 6.2 Performance requirements

Editor's Note: Use the consolidated KPI table from TR 22.856 as the starting point. The title might be updated depending on how to organise the KPI requirements, which needs to take into account of the related content in 22.261.

# Annex <A> (informative):Avatars and avatar communication

Editor's Note: Provide context and explanation concerning avatars and avatar communication as used in service requirements and other clauses of the TR.

Annex <B> (informative):
Bibliography

[Use style "Heading 8" in TSs and "Heading 9" in TRs. Do not use "informative" in the title in TRs.

The Bibliography is optional. If it exists, it shall follow the last technical annex in the document.

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

Bibliography format

<Publication>: "<Title>".

Editor's Note: For references used in the TS, let's separate those that are merely informative from those that are needed for normative requirements. All informative references can be added to this appendix and not clause 2.

Annex <C> (informative):
Change history

|  |
| --- |
| **Change history** |
| **Date** | **Meeting** | **TDoc** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |
|  |  |  |  |  |  |  |  |