|  |  |
| --- | --- |
| 3GPP TR 23.700-55 V0.0.0 (2021-09) | |
| Technical Report | |
| 3rd Generation Partnership Project;  Technical Specification Group Services and System Aspects;  Study on enhanced Application Architecture for UAS applications;  (Release 18) | |
|  | |
|  |  |
|  | |
| 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 address  3GPP support office address  650 Route des Lucioles - Sophia Antipolis  Valbonne - FRANCE  Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16  Internet  http://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.  © 2021, 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 members  3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners LTE™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners  GSM® 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 Symbols 6

3.3 Abbreviations 6

4 Key issues 6

4.1 Key issue #x: <Title> 6

5 Requirements 7

5.1 General 7

5.2 Requirements 7

6 Architecture 7

6.1 General 7

6.2 Architecture enhancement #x: <Title> 7

7 Solutions 7

7.1 General 7

7.2 Mapping of solutions to key issues 7

7.x Solution #x: <Title> 7

7.x.1 Architecture enhancements 7

7.x.2 Solution description 8

7.x.2.1 General 8

7.x.2.2 Procedure 8

7.x.3 Solution evaluation 8

8 Deployment scenarios 8

8.1 General 8

8.x Deployment scenario #x: <Title> 8

9 Overall evaluation 8

9.1 Architecture enhancements 8

9.2 Key issue evaluations 8

9.2.1 General 8

9.2.x Evaluation of key issue #x 9

10 Conclusions 9

10.1 Architecture enhancements 9

10.2 Solutions 9

Annex A (informative): Change history 10

# Foreword

This Technical Report 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.

# Introduction

This clause is optional. If it exists, it shall be the second unnumbered clause.

# 1 Scope

This clause shall start on a new page.

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".

# 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].

**example:** text used to clarify abstract rules by applying them literally.

## 3.2 Symbols

For the purposes of the present document, the following symbols apply:

<symbol> <Explanation>

## 3.3 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].

<ABBREVIATION> <Expansion>

# 4 Key issues

## 4.1 Key issue #x: <Title>

This clause describes the key issue with a suitable title. Please provide a high-level description of the key issue along with a list of open issues.

# 5 Requirements

## 5.1 General

This clause provides a general description of the requirement and its enhancements.

## 5.2 Requirements

This clause lists requirements.

# 6 Architecture

## 6.1 General

This clause provides a general description of the architecture and its enhancements.

## 6.2 Architecture enhancement #x: <Title>

This clause provides an architecture enhancement to the UAS application architecture based on the Rel-17 architecture.

# 7 Solutions

## 7.1 General

This clause provides a general description of the solutions.

## 7.2 Mapping of solutions to key issues

Table 7.2-1 Mapping of solutions to key issues

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | KI #1 | KI #2 | KI #3 | KI #4 |
| Sol #1 |  |  |  |  |
| Sol #2 |  |  |  |  |

## 7.x Solution #x: <Title>

This clause describes the solution and its evaluation with a suitable title. Please also update Table 7.2-1 and Table 9.2.1-1.

### 7.x.1 Architecture enhancements

This clause summarizes the architecture enhancements required by this solution – indicate the enhancement from clause 6 which is the basis for this solution if relevant. If no new enhancements are required compared to the Rel-17 architecture, indicate this by 'None'.

### 7.x.2 Solution description

This clause describes the solution in detail. Provide relevant description, procedures, information flows and APIs for the solution.

#### 7.x.2.1 General

#### 7.x.2.2 Procedure

### 7.x.3 Solution evaluation

This clause provides an evaluation of this solution.

# 8 Deployment scenarios

## 8.1 General

This clause provides a general description of the deployment scenarios.

## 8.x Deployment scenario #x: <Title>

Provide an illustrative description of the deployment scenario.

# 9 Overall evaluation

This clause provides a summary of architecture enhancements and solution evaluations.

## 9.1 Architecture enhancements

## 9.2 Key issue evaluations

### 9.2.1 General

All the key issues, solutions and architecture enhancements specified in this technical report are listed in Table 9.2.1-1.

Table 9.2.1-1 provides a mapping of the key issues to the related solutions. It also indicates whether the solution requires enhancement to the Release-17 architecture and lists the dependencies on other working groups.

Table 9.2.1-1 Key issue and solutions

| Key issues (evaluation clause reference) | Solution | Architectural enhancement  (clause reference) | Enhancements required | Dependency on other working groups |
| --- | --- | --- | --- | --- |
| *KI#1: <title>* | *Solution #x: <title>* | *6.x* | *Architecture / None* | *<WG>* |
| *Solution #y: <title>* | *6.y* | *Architecture / None* | *<WG>* |

### 9.2.x Evaluation of key issue #x

This clause provides an overall evaluation of all the solutions defined for Key Issue #x.

# 10 Conclusions

This clause provides conclusions of the study.

## 10.1 Architecture enhancements

## 10.2 Solutions

# Annex A (informative): Change history

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Change history** | | | | | | | |
| **Date** | **Meeting** | **TDoc** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |
| 2021-10 | SA6#45-bis-e |  |  |  |  | TR-skeleton |  |