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| 3GPP TR 33.896 V0.0.1 (2022-06) | |
| Technical Report | |
| 3rd Generation Partnership Project;  Technical Specification Group Services and System Aspects;  Study of Security Aspects on User Consent for 3GPP Services Phase 2;  (Release 18) | |
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Contents

Foreword 3

1 Scope 5

2 References 5

3 Definitions of terms, symbols and abbreviations 5

3.1 Terms 5

3.2 Symbols 6

3.3 Abbreviations 6

4 Overview 6

5 Key issues 6

5.1 Key Issue #1: User consent for roaming case in eNA 6

5.1.1 Key issue details 6

5.1.2 Security threats 6

5.1.3 Potential security requirements 6

5.2 Key Issue #2: User consent for NTN 7

5.2.1 Key issue details 7

5.2.2 Security threats 7

5.2.3 Potential security requirements 7

5.X Key Issue #X: <Key Issue Name> 8

5.X.1 Key issue details 8

5.X.2 Security threats 8

5.X.3 Potential security requirements 8

6 Solutions 8

6.1 Mapping of solutions to key issues 8

6.Y Solution #Y: <Solution Name> 8

6.Y.1 Introduction 8

6.Y.2 Solution details 8

6.Y.3 Evaluation 8

7 Conclusions 8

Annex X (informative): Change history 9

# 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.

# 1 Scope

The present document is to investigate potential enhancements of 5GS that would enable broader use cases in relation with user consent.

The following aspects are in the scope of the study:

1. Investigating the potential issues and solutions with user consent for:

- eNA in case of roaming.

- MEC in case of roaming.

- NTN.

- AI/ML for NG-RAN.

2. Investigating the potential generic security requirements, services and guidance for user consent derived from objective 1.

NOTE 1: This scope can be updated to reflect additional use cases.

NOTE 2: Principles, regulations, and definitions related to privacy, which are recognized differently in each different country or area, are taken into account when deriving the concept of user consent for 3GPP users.

NOTE 3: Even where solutions exist to obtain user consent, collection and exposure of user sensitive data should be minimized and identification of the users should only be allowed where critical to the operation of the related feature.

# 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 TR 23.700-81: “Study of Enablers for Network Automation for 5G System (5GS); Phase 3”.

[3] 3GPP TS 33.501: “Security architecture and procedures for 5G system”.

[4] 3GPP TS 23.501: "System architecture for the 5G System (5GS)".

[5] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description".

# 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 Overview

Editor's note: This clause includes the overview applicable for the study.

# 5 Key issues

Editor’s Note: This clause contains all the key issues identified during the study.

## 5.1 Key Issue #1: User consent for roaming case in eNA

### 5.1.1 Key issue details

As depicted in key issue #3 in 3GPP TR 23.700-81 [2], "In roaming scenario, the HPLMN/VPLMN may need to collect data or consume analytics from the VPLMN/HPLMN." In this case, the user data may be exchanged between different entity, i.e. VPLMN and HPLMN, that may be subject to different regulations with respect to user consent.

When it somes to the actions performed on the user data, the following cases need to be considered:

* HPLMN collects user data and exposes the data to VPLMN, VPLMN performs analytics and ML training.
* VPLMN collects user data and exposes the data to HPLMN, HPLMN performs analytics and ML training.

In order to cover these scenarios, it is important to assess the current user consent framework in Annex V in 3GPP TS 33.501 [3], and decides who will perform the role of enforcement point.

### 5.1.2 Security threats

If the HPLMN/VPLMN is not aware to check user consent for roaming case for eNA, e.g. data analysis or ML tranning, the HPLMN/VPLMN may expose user privacy information to VPLMN/HPLMN which could lead to a compromise of the user privacy.

If the HPLMN/VPLMN is not aware to revoke user consent for roaming case for eNA, the HPLMN/VPLMN may continue to process user privacy information which could lead to a compromise of user privacy.

### 5.1.3 Potential security requirements

The 5GS shall provide the means for a HPLMN/VPLMN to check of user consent for the roaming scenario in eNA.

The 5GS shall provide the means for HPLMN/VPLMN to revoke of user consent for the roaming scenario in eNA.

NOTE: Cross-PLMN data sharing among different countries is FFS.

## 5.2 Key Issue #2: User consent for NTN

### 5.2.1 Key issue details

NTN features are specified in clause 5.4.11 of 3GPP TS 23.501 [4] and clause 16.14 of 3GPP TS 38.300 [5]. In such features, the NG-RAN in NTN may require UE’s location information for selecting the AMF.

The way it works now is that after AS security is activated, the NG-RAN in NTN can request the UE to report its accurate location or coarse location. However, both types of location reports may require user consent depending on local regulations.

This key issue is intended to study whether there is any need to enhance the current user consent framework specified in Annex V in 3GPP TS 33.501 [3].

### 5.2.2 Security threats

If the NG-RAN in NTN is not aware of user consent status, then the NG-RAN in NTN may collect user’s location information without consent which could lead to a compromise of the user privacy.

If the NG-RAN in NTN is not aware that user consent for NTN use case has been revoked, then the NG-RAN in NTN may continue to collect user’s location information which could lead to a compromise of user privacy.

### 5.2.3 Potential security requirements

TBA.

Editor's Note: whether access to NTN service implies consent to NTN requesting location is ffs.

Editor's Note: requirements is ffs.

## 5.X Key Issue #X: <Key Issue Name>

### 5.X.1 Key issue details

### 5.X.2 Security threats

### 5.X.3 Potential security requirements

# 6 Solutions

## 6.1 Mapping of solutions to key issues

Table 6.1-1: Mapping of solutions to key issues

|  |  |  |  |
| --- | --- | --- | --- |
| Solutions | KI#1 | KI#2 | KI#3 |
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|  |  |  |  |

Editor’s Note: This clause contains the proposed solutions addressing the identified key issues.

## 6.Y Solution #Y: <Solution Name>

### 6.Y.1 Introduction

Editor’s Note: Each solution should list the key issues being addressed.

### 6.Y.2 Solution details

### 6.Y.3 Evaluation

Editor’s Note: Each solution should motivate how the potential security requirements of the key issues being addressed are fulfilled.

# 7 Conclusions

Editor’s Note: This clause contains the agreed conclusions that will form the basis for any normative work.

Annex X (informative):  
Change history

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| **Change history** | | | | | | | |
| **Date** | **Meeting** | **TDoc** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |
| 2022-06 | SA3#107Adhoc-e | S3-221680 |  |  |  | S3-221400, S3-221401, S3-221668, S3-221669 | 0.0.1 |