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Contents

Foreword

This Technical Report (TR) has been produced by ETSI 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:

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x the first digit:

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Introduction

In an emergency situation, like Earthquake or Tsunami, degradation of quality of service may be experienced. Degradation in service availability and performance can be accepted in such situations, but mechanisms are desirable to minimize such degradation and maximize the efficiency of the remaining resources.

When Domain Specific Access Control (DSAC) mechanism was introduced for UMTS, the original motivation was to enable PS service continuation during congestion in CS Nodes in the case of major disaster like an Earthquake or a Tsunami.

In fact, the use case of DSAC in real UMTS deployment situation has been to apply access control separately on different types of services, such as voice and other packet-switched services.

For example, people’s psychological behaviour is to make a voice call in emergency situations and it is not likely to change. Hence, a mechanism will be needed to separately restrict voice calls and other services.

As EPS is a PS-Domain only system, DSAC access control does not apply.
This SSAC TR identifies specific features useful when the network is subjected to decreased capacity and functionality. Considering the characteristics of voice and non-voice calls in EPS, requirements of the SSAC could be to restrict the voice calls and non-voice calls separately.

For a normal paid service there are QoS requirements. The provider can choose to shut down the service if the requirements cannot be met. In an emergency situation the most important thing is to keep communication channels uninterrupted, therefore the provider should preferably allow for a best effort (degradation of) service in preference to shutting the service down. During an emergency situation there should be a possibility for the service provider also to grant services, give extended credit to subscribers with accounts running empty. Under some circumstances (e.g. the terrorist attack in London on the 7 of July in 2005), overload access control may be invoked giving access only to authorities or a predefined set of users. It is up to national authorities to define and implement such schemes.

1 Scope

This Technical Report (TR) presents the results of the Study on Service Specific Access Control (SSAC). The intent of this Study is to assess the ability of 3GPP specifications to meet requirements identified for Services Specific Access Control. This Study considers the following aspects:

- Study use cases and clarify issues in SSAC in EPS.
- Describe the considerations and the problems with existing access control, which are identified in the use cases
- Identify candidate requirements and aspects for providing SSAC in EPS.

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 23.898: "Access Class Barring and Overload Protection (ACBOP)"

3 Definitions, symbols 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 TR 21.905 [1].

3.2 Symbols

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

3.3 Abbreviations

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