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Introduction

This document is the revised draft skeleton TR of requirements for EUTRA and EUTRAN. In this draft, section for the work plan is added and section structure for requirements is modified according to comments from some companies in the RAN LTE meeting.

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Technical Report

3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Requirements for Evolved UTRA and UTRAN (Release 7)



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Foreword

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- 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.

1 Scope

This document is related to the technical report for the study item “Evolved UTRA and UTRAN” [1]. The objective of the study item is to develop a framework for the evolution of the 3GPP radio-access technology towards a high-data-rate, low-latency and packet-optimized radio access technology.

This document provides guidance and collects requirements which an evolved UTRA and UTRAN system should meet.

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 TD RP-040461: "Proposed Study Item on Evolved UTRA and UTRAN".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply.

<defined term>: <definition>.

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 following abbreviations apply:

4 Introduction

At the 3GPP TSG RAN #26 meeting, the SI description on “Evolved UTRA and UTRAN” was approved [1].

The justification of the study item was, that with enhancements such as HSDPA and Enhanced Uplink, the 3GPP radio-access technology will be highly competitive for several years. However, to ensure competitiveness in an even longer time frame, i.e. for the next 10 years and beyond, a long-term evolution of the 3GPP radio-access technology needs to be considered.

Important parts of such a long-term evolution includes reduced latency, higher user data rates, improved system capacity and coverage, and reduced cost for the operator. In order to achieve this, an evolution of the radio interface as well as the radio network architecture should be considered.

Considering a desire for even higher data rates and also taking into account future additional 3G spectrum allocations the long-term 3GPP evolution should include an evolution towards support for wider transmission bandwidth than 5 MHz. At the same time, support for transmission bandwidths of 5MHz and less than 5MHz should be investigated in order to allow for more flexibility in whichever frequency bands the system may be deployed.

5 Objectives

The objective of Evolved UTRA and UTRAN is to develop a framework for the evolution of the 3GPP radio-access technology towards a high-data-rate, low-latency and packet-optimized radio-access technology. Thus the study should focus on supporting services provided from the PS-domain. In order to achieve this, studies should be carried out in at least the following areas:

- Related to the radio-interface physical layer (downlink and uplink):
 - e.g. means to support flexible transmission bandwidth up to 20 MHz, introduction of new transmission schemes and advanced multi-antenna technologies
- Related to the radio interface layer 2 and 3:
 - e.g. signalling optimization
- Related to the UTRAN architecture:
 - identify the most optimum UTRAN network architecture and functional split between RAN network nodes, not precluding considerations on the functional split between UTRAN and CN
- RF-related issues

6 Capability-related requirements

Editor's Note: This section captures UE and NW capabilities, e.g. peak data rates, achievable data rate, delay (RTT, C-plane latency, etc),

7 System performance requirements

Editor's Note: This section captures, e.g. capacity/throughput for different services, coverage

8 Deployment-related requirements

Editor's Note: This section captures, e.g. spectrum aspects (frequency bands, size of spectrum allocations, duplex arrangements), spectrum migration, co-existence, inter-action with Release 6 (and earlier) UTRA

9 Migration-related requirements

Editor's Note: This section captures requirements related to migration scenario.

10 Radio Resource Management requirements

Editor's Note: This section captures, e.g. inter-RAT support.

11 Complexity requirements

Editor's Note: This section captures, e.g. terminal complexity, infra-structure complexity

12 Other requirements

Editor's Note: This section captures, e.g. inter-working with other RAT, ...

13 Change History

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New