

TS 26.913 V 0.0.1 (1999-06)

Technical Report

**3rd Generation Partnership Project (3GPP);
TSG-SA Coding Working Group;
QoS for Speech and Multimedia Codec;
Quantitative performance evaluation of Real-time Packet
Switched Multimedia Services Over 3G**

3GPP



Reference

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Intellectual Property Rights

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project, Technical Specification Group <TSG name>.

The contents of this TS may be subject to continuing work within the 3GPP and may change following formal TSG approval. Should the TSG modify the contents of this TS, it will be re-released with an identifying change of release date and an increase in version number as follows:

Version m.n.e

where:

m indicates [major version number]

x the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

y the third digit is incremented when editorial only changes have been incorporated into the specification.

Introduction

This clause is optional. If it exists, it is always the third unnumbered clause.

No text block identified.

1 Scope

The present document will characterise the performance of packet switched speech and multimedia services over real-time radio access bearers and the packet switched architecture of the 3G network specified in 3GPP technical specification groups. The report will provide conclusions on whether the detailed Stage 1 service requirements set for packet switched conversational services over 3G networks in 3GPP TS 22.05 can be achieved and what is the service quality perceived on quantitative metrics with the available 3G technology.

Suggestions of a set of recommended RAB parameters, layer 3 and layer 2 PDU handling configurations in Radio Access Network and Core Network paths are noted for providing satisfactory end-user quality for a generic packet switched real-time multimedia service over the 3G cellular network.

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.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] ISO/IEC 14496-2 Final Draft of International Standard, "Information technology - generic coding of audio-visual objects: Part2-Visual", ISO/IEC JTC1/SC29/WG11 N2502, Nov. 1998.
- [2] ITU-T Recommendation H.263, "Video coding for low bit rate communication", Feb. 1998.
- [3] ITU-T COM16-79, "Draft revised Recommendation H.245 - Version 5", January, 1999.

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the [following] terms and definitions [given in ... and the following] apply.

Codec: a single media coder/decoder, or a multimedia system specific coder & decoder system. For example, 3GPP AMR (speech codec), ITU-T H.263 (video codec) or ITU-T H.32x (multimedia system with included media codecs) are understood to fulfil the definition of a codec.

3.2 Symbols

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

<symbol> <Explanation>

TBA

3.3 Abbreviations

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

3G	Third Generation Mobile Network
BER	residual Bit Error Ratio
FER	Frame Error Ratio
PLMN	Public Land Mobile Network
QoS	Quality of Service

TBA

TS xx.xx “Acronyms and definitions...” FFS provides the definitions not listed in this section.

4 3GPP Configuration for Real-time Packet Switched Multimedia Service

TBA

Figure 1

Figure 1 shows the main building block diagram of a 3G packet switched multimedia service terminal. The configuration actually used for each of the four performances evaluations (Speech, Video, Control and Data) will be described under each heading.

4.1 Simulation test environment

FFS

FFS

Figure 2: System Configuration of simulation environment

4.2 Packet encapsulation model for codecs under test

Layer	Entity	Instance
Application Layer	Video Codec	RTP packetised ISO MPEG-4 Simple Profile or ITU-T H.263 Ver.2
	Speech Codec	RTP packetised GSM AMR at rate FFS
Session Layer	UDP	
Network Layer	IP	

Link Layer	RLC blocks	In case of speech RLC blocks of size FFS In case of video RLC blocks of size FFS
Physical Layer	Simulated Wideband CDMA-channel	Error pattern files – bitrate: FFS – channel error condition BER: FFS – velocity (model): FFS

Table 1

5 Performance

5.1 Speech

FFS

5.1.1 Introduction

FFS

5.1.2 Results

FFS

5.2 Video

5.2.1 Introduction

FFS

5.2.2 Results

FFS

The following annex is only to be used where appropriate:

Annex <A> (normative):

History

Document history		
V 0.0.1	1999-06	Initial TR draft version published as Tdoc S4-99160 in TSG-S4#5