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Contents

Foreword

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Introduction

The present document captures the results of the feasibility study for introducing support for A-interface over IP.

1 Scope

The present document contains the result from the study of introduction of support for A-interface over IP. High level areas that are studied are e.g. potential placement of transcoders in the core network, effective bandwidth utilisation at the A-interface, impact on call related messages, payload formats.

The following items shall be covered in the study:

- In the target solution it is wanted to transfer compressed speech as far as possible end-to-end to achieve efficient transport and speech quality. The possibility to free GERAN from handling all kind of transcoders shall be studied, and the architecture might place Codecs in the core network.
- Impacts/changes on current A-interface procedures resulting from placing transcoders in the core network as well as in the BSS shall be studied, e.g. impacts on the assignment and handover procedures.
- In addition to allow compressed speech over the A-interface the study shall provide further solution for effective bandwidth utilisation at the A interface, which means it shall describe multiplexing of RTP flows and how this will be negotiated between the BSS and CN nodes.
- The study shall describe a solution for "true end-to-end Codec negotiation", which considers on a call basis the preference/situation of the radio network.
- It shall be studied how call related messages have to be adapted, e.g. transfer of Codec related information, identification of calls/sessions.
- The study shall describe the wanted payload formats and other relevant user plane parameters like packetization time etc.

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 TS 23.205: "Bearer-independent circuit-switched core network".

[3] 3GPP TS 25.415: "UTRAN Iu Interface User Plane Protocols".

[4] 3GPP TS 48.006: "Signaling Transport Mechanism Specification for the Base Station System - Mobile-services Switching Centre (BSS - MSC) Interface".

[5] 3GPP TS 23.002: "Network architecture (Release 8)".

[6] 3GPP TS 48.008: "Mobile Switching Centre - Base Station System (MSC-BSS) interface Layer 3 specification".

[7] 3GPP TS 48.060: "In-band control for remote transcoders and rate adaptors for full rate traffic channels".

[8] 3GPP TS 48.061: "In-band control for remote transcoders and rate adaptors for half rate traffic channels".

[9] 3GPP TS 26.103: "Speech Codec list for GSM and UMTS".