

Agenda Item: 7

Source: Motorola

Title: On enabling Non-transparent Bearers in UTRAN from the PS Domain

Document for: Approval

Overview

It is agreed that the UTRAN and core network in the Release 2000 Reference Architecture will support multimedia bearer streams in the packet Domain. In order to enable spectrum efficiency over the air interface, non-transparent bearer services provided by the UTRAN in R99, must be accessible from the PS domain.

Further, it is expected that the R00 core network will provide access to a variety of radio access technologies such as EDGE. Note that it was recently agreed that the “Iu-ps” interface will be used to provide connectivity between the PS domain and the GERAN (GPRS EDGE RAN). Further, it was agreed that (see document G00-021.doc from the 3GPP TSG S2/SMG12/SMG2 joint workshop on EDGE):

- A GERAN connected to the CN via the Iu-ps interface shall on legacy transceivers as a minimum be able to support conversational class for the following speech codecs: FR, HR, EFR, AMR (provided that the legacy transceiver supports the corresponding circuit switched channels).

This requirement can be met only if access to non-transparent bearers provided by the GERAN via the Iu-ps.

Discussion

The SGSN is responsible for requesting the bearer service from the RAN. When call control is a separate function entity from the SGSN, the SGSN is not aware of the media type being carried over any given bearer. Further, due to the limitations of the Iu-ps user plane, the SGSN cannot request non-transparent bearers from the RAN.

A logical path between the CSCF and the SGSN is required in order to communicate appropriate parameters for allocation of bearer resources in the network.

5.3.12 SGSN (addition to capabilities)

- SGSN receives media type information from the CSCF (using the Pq interface).
- SGSN requests the appropriate bearer service from the RAN based the media type.

Additions to Reference Point Descriptions

5.4.15 Pq Reference Point

This is the reference point between the SGSN and the CSCF. The interface at this reference point is used to signal the information required allowing the SGSN to request the appropriate bearer service from the RAN. Note that the interface is logical only and it may physically be transported through the GGSN. Note that the specification of this interface will require standardization of only appropriate signaling messages between the CSCF and the SGSN.

Conclusion and Proposal

The following is proposed:

- A logical interface between the SGSN and the CSCF is introduced.
- The proposed text from this contribution be added into Chapter 5.3 and 5.4 of TR 23.821.

Motorola will provide subsequent contributions to address any required enhancements to the Iu-ps interface.