

Agenda Item: 6.3.11 (QoS Section)
Source: NTT DoCoMo / Mannesmann Mobilfunk
Title: Re-negotiation feature
Document for: Discussion

The re-negotiation during call / session is the feature of UMTS / IMT2000. This feature shall be possible for the user to modify QoS parameters. Therefore, the user can modify the bearer by application during call / session. It provides more flexible service capability to the users.

We propose that TSG-S1 adopt the following changes for UMTS 22.00.

6 UTRAN capabilities

NOTE : The term performance refers in this clause to the realisation of the QoS objectives inside the UTRAN.

UTRAN capabilities for UMTS are the complete set of bearer capabilities and bearer control specified in UMTS 22.05. The UTRAN shall have the following capabilities :

- 1) A UTRAN shall be contained within only one UMTS network. (In the case of a network with a phase 1 UMTS core network consisting of an evolved GSM core network, it shall be possible to connect the UTRAN to the GSM NSS and GPRS backbone infrastructures or only one of them.)
- 2) The UTRAN shall support the set-up, re-negotiation and clearing of connections with a range of traffic and performance characteristics. The re-negotiation of QoS attributes / bearer attributes may result from an upper layer request or a change in the radio conditions (handover, cell load modification,...) and may be mobile station (e.g. by an application or the user via an application) or network initiated. It shall be possible for the UTRAN to apply the following traffic policing mechanisms such as :
 - . connection admission control (CAC) during connection set-up and re-negotiation,
 - . flow control (FC) on a connection during its lifetime,
 - . usage parameter control (UPC) on a connection during its lifetime..

~~The re negotiation shall provide flexible service capabilities which will enable the user to modify QoS parameters (bearer) during call / session.~~

8 UMTS Core Network

NOTE 1: The term performance refers in this clause to the resource level usage and reliability of the UMTS core network.

NOTE 2: SMG1 does not use the (circuit switched) notion of call to define UMTS phase 1 core network capabilities. If SMG12 decides to use this notion to fulfil SMG1 requirements, it shall be noted that it is not required for phase 1 UMTS core networks to support calls with multiple connections. Multiple connections for a single mobile could be realised through several calls.

In the first phase of UMTS, the UMTS core network capabilities are a superset of the phase 2+ release 99 GSM core network capabilities. The additional requirements for the phase 1 UMTS core network are the following :

- 1) The phase 1 UMTS core network shall support circuit switched data service capability of at least 64 kbit/s per user. *This shall not limit the user from choosing lower data rates.*
- 2) The phase 1 UMTS core network shall support packet switched data service capabilities of at least 2 Mbit/s peak bit rate per user. *This shall not limit the user from choosing lower data rates.*

The phase 1 UMTS core network shall enable set-up, re-negotiation and clearing of connections with a range of traffic and performance characteristics. The re-negotiation of QoS attributes / bearer may be caused by an application or the user via an application on the UTRAN interface (see UTRAN capability section). It shall be possible to apply traffic policing (e.g. connection admission control, flow control, usage parameter control...) on a connection during its set-up and lifetime. ~~The re-negotiation shall provide flexible service capabilities which will enable the user to modify QoS parameters (bearer) during call / session.~~