Title: **Support of Streaming and Conversational IP Bearers**

Source: **mmO2**

Agenda: **12**

1. Introduction

Currently 3GPP defines in TS 23.107 a set of UMTS bearers to be supported in order to allow different end to end level of QoS over the UMTS network.   This end-to-end aspect involves a support of the UMTS bearers both on the core and radio access network. 34.108 defines the parameters to be tested against the terminal for a set of radio bearers covering the different level of QoS specified in 23.107. This contribution highlights the need to define in 34.108 test parameters for streaming and conversational radio bearers supporting Packet Switched (PS) services.

2. Discussion

2.1 UMTS bearers.

Looking at 23.107 four levels of QoS have to be offered on the UMTS network in order to allow the support of the different type of packet switch services.

- Background class.

With this level of QoS the delivery time of the data cannot be guaranteed and the class is usually used for background processing of data for services such as e-mail or SMS.

- Interactive class.

Traffic priority is handled in this class this allowing user interaction with remote equipment in application such as web browsing or database access.

- Streaming class.

With this traffic class a bit rate is guaranteed over the UMTS network this allowing the implementation of services that are jitter sensitive (e.g. Packet Switch Streaming Service defined in TS TS 26.233, TS 26.234). However the streaming class does not guarantee a minimum end to end delay.

- Conversational class.

With the conversational class, Jitter and end-to-end delay are minimised thus allowing the implementation of conversational services such as real time multimedia session.

2.2 Radio bearers required.

The four levels described above have to be offered end to end over the UMTS thus, both the core and radio access network have to allow these classes of QoS. This involves the specification of the tests needed for radio bearers offering background, interactive, streaming conversational class.
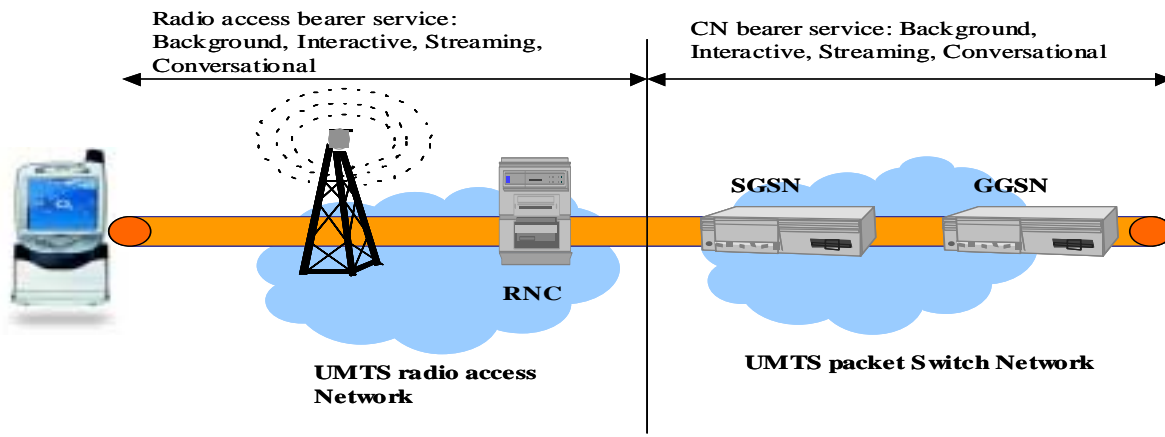

Figure 1 UMTS bearer Service

TS 34.108 proposes reference RABs and their combination to be tested against the terminal.

The mechanisms needed in order to offer the UMTS bearers defined in 23.107 should have been available in a Rel 99 time frame, and 3GPP defines from Rel 4, real time packet switch services requiring the use of streaming and conversational bearers.

However, the current version of 34.108 (TS 34.108 v421) does not cover the tests for the streaming and conversational radio bearers needed to support Rel 4 & Rel 5 packet switch services.

Thus, clarification has to be done by RAN on the impact involved by this lack of specification, on Rel 4 and Rel 5 services. Indeed, as Rel 4 standardisation has been frozen in March 2001 it has to be confirmed if the mechanisms needed to support the different services defined by 3GPP in an end-to-end manner are currently defined and available over the radio.

In order to define the tests of the streaming and conversational radio bearers for packet switch services, clear requirements have to be placed on the RAN groups specifying the combinations of RABs (and RAB parameters) that are needed to support the services in an end-to-end manner. If this standardisation is not currently available, 3GPP should

establish the mechanism needed in order to ensure that all the network conditions are considered in the specification of the different services.

3. Conclusion

Thus it is proposed that RAN agrees on the following points:

1. Streaming and conversational class are needed in order to allow the implementation of Rel 4 and Rel 5 packet switch services;

2. 3GPP should ensure that a clear process is established in order to define the network conditions required to allow the QoS needed to support the services in an end to end manner;

3. 3GPP should define the parameters needed to test the radio bearers, thus allowing the implementation of streaming and conversational services for Packet Switch networks;

4. *RAN should identify the time frame and processes needed to progress these issues.*