

TSG-SA Working Group 1 (Services) meeting #3
Hampton Court, Surrey, UK 10th-12th May 1999

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Agenda: 9

Source: TSG-S1

To: TSG RAN WG4

Title: **LS: Response to liaison on power classes**

This liaison statement is in response to the liaison statement from TSG RAN WG4 (Doc TSG1#3(99) 241) regarding the Requirements for mobile power classes. SA WG1 would draw to the attention of RAN WG4 to document 22.105 V 3.4.0 section 5.4 which is introduced here in the Annex for convenience, which we hope can provide some guidance, since the requirements on data rate, error rate, delay and radio environment allow this derivation. Please note however that TSG-S1 specifies end to end QoS and the work of TSG-S2 on link performance should be taken into account.

Annex:

5.4 Supported QoS

It shall be possible for one application to specify its QoS requirements to the network by requesting a bearer service with any value for the maximum transfer delay, delay variation, bit error rate and error characteristic attributes.

The following table indicates the range of values that shall be supported by UMTS for the QoS attributes. These requirements are valid for both connection and connectionless traffic. It shall be possible for the network to satisfy these requirements without wasting resources on the radio and network interfaces due to granularity limitations in QoS.

	Real Time (Constant Delay)	Non Real Time (Variable Delay)
Operating environment	BER/Max Transfer Delay	BER/Max Transfer Delay
Satellite (Terminal relative speed to ground up to 1000 km/h for plane)	Max Transfer Delay less than 400 ms BER 10-3 - 10-7 (Note 1)	Max Transfer Delay 1200 ms or more (Note 2) BER = 10-5 to 10-8
Rural outdoor (Terminal relative speed to ground up to 500 km/h) (Note 3)	Max Transfer Delay 20 - 300 ms BER 10-3 - 10-7 (Note 1)	Max Transfer Delay 150 ms or more (Note 2) BER = 10-5 to 10-8
Urban/ Suburban outdoor (Terminal relative speed to ground up to 120 km/h)	Max Transfer Delay 20 - 300 ms BER 10-3 - 10-7 (Note 1)	Max Transfer Delay 150 ms or more (Note 2) BER = 10-5 to 10-8
Indoor/ Low range outdoor (Terminal relative speed to ground up to 10 km/h)	Max Transfer Delay 20 - 300 ms BER 10-3 - 10-7 (Note 1)	Max Transfer Delay 150 ms or more (Note 2) BER = 10-5 to 10-8
<p>NOTE 1; There is likely to be a compromise between BER and delay.</p> <p>NOTE 2; The Max Transfer Delay should be here regarded as the target value for 95% of the data.</p> <p>NOTE 3; The value of 500 km/h as the maximum speed to be supported in the rural outdoor environment was selected in order to provide service on high speed vehicles (e.g. trains). This is not meant to be the typical value for this environment (250 km/h is more typical).</p>		