

Source: BT.

Title: Release 5 QoS Class of Service Definitions.

Agenda Item:

Document for: DECISION.

1. Introduction.

Two of the 3GPP specs. on Quality of Service (QoS) were used as the basis for updating ITU-R Recommendation M.1079 in 1999. M.1079 makes recommendations on QoS aspects for IMT-2000*. The specs used were TS 22.105 (Services and Service Capabilities) and TS 23.107 (QoS Concept and Architecture). An inconsistency in the way the QoS Class of Service definitions are used in these specs was spotted as a result of some work done by ITU-T Study Group 12 when examining ITU-R Recommendation M.1079 on QoS earlier in 2002.

This contribution describes the inconsistency spotted for QoS Class of Service definitions, and then makes proposals on how the problem should be rectified in the relevant 3GPP specs.

* IMT-2000 – International Mobile Telecommunications 2000 – the ITU acronym for 3G.

2. Description of the QoS Class of Service definitions problem.

Section 5.5. of TS 22.105 (v 5.0.0.) details the “Supported End User QoS” for UMTS Release 5 and the QoS Class of Service definitions are defined as:

- Conversational – delay \ll 1 second.
- Interactive – delay about 1 second
– a tight delay limit is believed to be required for e-Commerce applications etc.
- Streaming – delay $<$ 10 seconds, and
- Background – delay $>$ 10 seconds.

From section 6.3. onwards in TS 23.107 (v 5.3.0.), the classes are consistently listed with the middle two classes in the reverse order to TS 22.105, i.e. Conversational class, Streaming class, Interactive class and finally, the Background class. Furthermore in Table 2 (section 6.4.3.3.) and in Table 3 (section 6.4.4.3.) NO transfer delay figure is quoted at all for the Interactive Class!

As stated earlier, for e-Commerce applications in particular, it is believed that a delay figure needs to be specified for the Interactive Class. From other technical considerations, it would seem that e-Commerce applications belong in the QoS Interactive Class more closely than in any of the other QoS classes defined for 3G. BT believes therefore, that the specification of the Interactive Class in TS 23.107 needs to be tightened to meet the e-Commerce requirements.

This view is consistent with the opinion of ITU-T Study Group 12 who are the ITU’s QoS experts, and these principles are being implemented in the current updating process for ITU-R Recommendation M.1079-1. It is therefore believed that 3GPP SA2 also needs to follow suit and update TS 23.107 – preferably for Release 5, or if that is not possible, then as soon as possible afterwards for Release 6.

3. Proposal for action to ensure that 3GPP uses consistent QoS Class of Service definitions in all relevant TS's.

It is proposed that the specification of the Interactive Class in TS 23.107 needs to be tightened to meet the e-Commerce requirements on delay.

It is proposed that these issues should be referred to SA2 who should then propose a solution to SA #17 in Biarritz. SA2 should ask the relevant Rapporteur for TS 23.107 to update this specification in line with the principles outlined in section 2 of this contribution above, and then to bring back the relevant Change Requests (CRs) to the next 3GPP SA plenary meeting in Biarritz (i.e. SA #17) in September 02 for approval.