Technical Specification Group Services and System Aspects
Meeting #10, Bangkok, Thailand, 11-14 December 2000

TSGS#9(00) 0535

Source: **TSG SA1**

Title: **CR to 22.105 on Alignment of delay definition (R99)**

Document for: **Approval**

Agenda Item: **7.1.3**

Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc. No.
22.105	028		R99	A	Alignment of delay definition	3.9.0	3.10.0	S1-000812

CR-Form-v3

CHANGE REQUEST

✎ **TS 22 105** CR **028** ✎ rev **-** ✎ Current version: **3.9.0** ✎

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ✎ symbols.*

Proposed change affects: ✎ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☐

Title:	✎	Alignment of delay definition
Source:	✎	SA1
Work item code: ✎		***Date:*** ✎ 17/11/2000
Category:	✎ **A**	***Release:*** ✎ R99

Use <u>one</u> of the following categories:
    F *(essential correction)*
    A *(corresponds to a correction in an earlier release)*
    B *(Addition of feature),*
    C *(Functional modification of feature)*
    D *(Editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.

Use <u>one</u> of the following releases:
    2   (GSM Phase 2)
    R96 (Release 1996)
    R97 (Release 1997)
    R98 (Release 1998)
    R99 (Release 1999)
    REL-4 (Release 4)
    REL-5 (Release 5)

Reason for change:	✎	Correction of feature.
Summary of change: ✎		Addition of note to section 5.5
Consequences if not approved:	✎	Less clarity; requested by SA plenary

Clauses affected:	✎	2.1, 5.5
Other specs affected:	✎	☐ Other core specifications ✎
		☐ Test specifications
		☐ O&M Specifications
Other comments:	✎	

1   Scope

Existing systems have largely standardised the complete sets of bearer services, teleservices and supplementary services which they provide. 3GPP specifications specify service capabilities rather than services, allowing service differentiation and system continuity. This Technical Specification (TS) describes how and what kind of services the user has access to.

2   References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- ? References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- ? For a specific reference, subsequent revisions do not apply.

- ? For a non-specific reference, the latest version applies.

- ? A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

2.1   Normative references

[1]   TS 22.001: "Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN)".

[2]   TS 02.002: " Circuit Bearer services supported by a Public Land Mobile Network (PLMN)".

[3]   TS 22.003: "Circuit Teleservices supported by a GSM Public Land Mobile Network (PLMN)".

[4]   TS 22.004: " General on supplementary services".[5]   TS 22.038: " SIM toolkit Stage 1".

[6]   TS 22.057: " Mobile Station Application Execution Environment (MExE); Service description; Stage 1".

[7]   TS 22.060: "General Packet Radio Service (GPRS) stage 1".

[8]   TS 22.078: " Customised Applications for Mobile network Enhanced Logic (CAMEL); Service definition - Stage 1".

[9]   TS 22.101: " Service principles".

[10]   TS 22.121: " Virtual Home Environment (VHE), Stage 1".

[11]   TS 22.135: "Multicall, stage 1".

5.5   Supported End User QoS

This section outlines the QoS requirements that shall be provided to the end user / applications and describes them as requirements between communicating entities ~~(i.e. end to end). The QoS values in the tables represent end to end performance, including mobile to mobile calls and satellite components . Delay values represent one -way delay (i.e. from originating entity to terminating entity). Figure 2 below summarises the major groups of application in terms of QoS requirements~~. Applications and new applications may be applicable to one more groups.

Error tolerant	Conversational voice and video	Voice messaging	Streaming audio and video	Fax
Error intolerant	Telnet, interactive games	E-commerce, WWW browsing,	FTP, still image, paging	E-mail arrival notification
	Conversational (delay <<1 sec)	Interactive (delay approx.1 sec)	Streaming (delay <10 sec)	Background (delay >10 sec)

The following tables further elaborate end user / application QoS requirements.

Table 1: ~~End-user~~ Performance ~~Expectations~~ Requirements - Conversational / Real-time Services

Medium	Application	Degree of symmetry	Data rate	Key performance parameters and target values		
				End-to-end One-way Delay (*)	Delay Variation	Information loss
Audio	Conversational voice	Two-way	4-25 kb/s	~~<150 msec preferred <400 msec limit~~100msec Typical	< 1 msec	< 3% FER
Video	Videophone	Two-way	32-384 kb/s	~~<150 msec preferred <400 msec limit~~100msec Typical Lip-synch : < 100 msec		< 1% FER
Data	Telemetry - two-way control	Two-way	<28.8 kb/s	< 250 msec	N.A	Zero
Data	Interactive games	Two-way	< 1 KB	< 250 msec	N.A	Zero
Data	Telnet	Two-way (asymmetric)	< 1 KB	< 250 msec	N.A	Zero

(*) The overall one way, (e.g. from UE to PLMN border).