
Source: SA1
Title: CRs to 22.060 on Delay Criteria and Service Examples (Rel-6)
Document for: Approval
Agenda Item: 7.1.3

SA Doc	Spec	CR	Rev	Phase	Cat	Subject	Old Vers	New Vers	SA1 Doc
SP-030019	22.060	028	-	Rel-6	D	Service Examples	5.2.0	5.3.0	S1-030251
SP-030019	22.060	029	-	Rel-6	C	Delay Criteria	5.2.0	5.3.0	S1-030252

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CHANGE REQUEST

⌘ **22.060 CR 028** ⌘ rev **-** ⌘ Current version: **5.2.0** ⌘

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

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Service Examples		
Source:	⌘ SA1 (Research in Motion)		
Work item code:	⌘ TEI	Date:	⌘ 13/01/2003
Category:	⌘ D	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Service examples do not cover services available in Release 6
Summary of change:	⌘ New service examples introduced
Consequences if not approved:	⌘ Stage 1 would not fully reflect range of service available with GPRS.

Clauses affected:	⌘ 4												
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> <td></td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> <td>Other core specifications</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> <td>Test specifications</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> <td>O&M Specifications</td> </tr> </table>	Y	N		⌘	X	Other core specifications	⌘	X	Test specifications	⌘	X	O&M Specifications
Y	N												
⌘	X	Other core specifications											
⌘	X	Test specifications											
⌘	X	O&M Specifications											
Other comments:	⌘												

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4 Main Concepts

The GPRS allows the service subscriber to send and receive data in an end-to-end packet transfer mode, without utilizing network resources in circuit switched mode.

GPRS enables the cost effective and efficient use of network resources for packet mode data applications e.g. for applications that exhibit one or more of the following characteristics:

- intermittent, non-periodic (i.e., bursty) data transmissions, where the time between successive transmissions greatly exceeds the average transfer delay;
- frequent transmissions of small volumes of data, for example transactions consisting of less than 500 octets of data occurring at a rate of up to several transactions per minute;
- infrequent transmission of larger volumes of data, for example transactions consisting of several kilobytes of data occurring at a rate of up to several transactions per hour.

Within the GPRS, two different bearer service types are defined. These are:

- Point-To-Point (PTP);
- Point-To-Multipoint (PTM).

Based on standardized network protocols supported by the GPRS bearer services, a GPRS network administration may offer (or support) a set of additional services. This is outside the scope of this specification, however, a number of possible PTP interactive teleservices include:

- retrieval services which provide the capability of accessing information stored in data base centres. The information is sent to the user on demand only. An example of one such service in the Internet's World Wide Web (WWW);
- messaging services which offer user-to-user communication between individual users via storage units with store-and-forward mailbox, and/or message handling (e.g., information editing, processing and conversion) functions;
- conversational services which provide bi-directional communication by means of real-time (no store-and-forward) end-to-end information transfer from user to user. An example of such a service is the Internet's Telnet application;
- tele-action services which are characterized by low data-volume (short) transactions, for example credit card validations, lottery transactions, utility meter readings and electronic monitoring and surveillance systems.

Some examples of teleservices which may be supported by a PTM bearer service include:

- distribution services which are characterized by the unidirectional flow of information from a given point in the network to other (multiple) locations. Examples may include news, weather and traffic reports, as well as product or service advertisements;
- dispatching services which are characterized by the bi-directional flow of information from a given point in the network (dispatcher) and other (multiple) users. Examples include taxi and public utility fleet services;
- conferencing services which provide multi-directional communication by means of real-time (no store-and-forward) information transfer between multiple users.

Some examples of teleservices which may be supported by either PTP or PTM bearers include:

- user subscribed services where a priori agreement is made for delivery of data to a user, such as stock quotes, sports results, specific product or service advertisements, and email.

EGPRS is an enhancement of GPRS for GERAN allowing higher data rates on the radio interface. The same set of services provided by GPRS is available in EGPRS.

HSDPA is an enhancement to Packet data services for UTRAN allowing higher data rates on the radio interface downlink. The same set of services provided by GPRS is available with GPRS using HSDPA.

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CHANGE REQUEST

⌘ **22.060 CR 029** ⌘ rev - ⌘ Current version: **5.2.0** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Delay Criteria		
Source:	⌘ SA1 (Research in Motion)		
Work item code:	⌘ TEI	Date:	⌘ 13/01/2003
Category:	⌘ C	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
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			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ The specification of the delay criteria does not explicitly cover the case where the initial SDU to establish communications contains user data.
Summary of change:	⌘ Clarification added.
Consequences if not approved:	⌘ Potential misinterpretation of Stage 1 requirement for all user data in SDUs.

Clauses affected:	⌘ 5.6.2.1.3										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications	⌘
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5.6.2.1.3 Delay

GPRS is not a „store and forward“ service - although data is temporarily stored at network nodes during transmission - thus, any delay incurred is due to technical transmission characteristics (or limitations) of the system and is to be minimised for a particular delay class. The delay parameter thus defines the maximum values for the mean delay and 95-percentile delay to be incurred by the transfer of data through the GPRS network(s). The delay parameter defines the end-to-end transfer delay incurred in the transmission of SDUs through the GPRS network(s).

This includes the radio channel access delay (on uplink) or radio channel scheduling delay (on downlink), the radio channel transit delay (uplink and/or downlink paths) and the GPRS-network transit delay (multiple hops). It does not include transfer delays in external networks.

Delay is measured between the R or S (for UE) and Gi (for FS) reference points when applied to "UE to fixed station (FS)" or "FS to UE" transmissions.

Table 5: Delay classes

Delay Class	Delay (maximum values)			
	SDU size: 128 octets		SDU size: 1024 octets	
	Mean Transfer Delay (sec)	95 percentile Delay (sec)	Mean Transfer Delay (sec)	95 percentile Delay (sec)
1. (Predictive)	< 0.5	< 1.5	< 2	< 7
2. (Predictive)	< 5	< 25	< 15	< 75
3. (Predictive)	< 50	< 250	< 75	< 375
4. (Best Effort)	Unspecified			

[The SDUs used to establish communications between network and UE are counted in the averages in the above table if they also contain user data.](#)