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Technical Specification

Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
Circuit Teleservices supported by
a Public Land Mobile Network (PLMN)
(3GPP TS 22.003 version 10.0.0 Release 10)

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Foreword

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Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

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0 Scope

This Technical Specification (TS) describes and defines a recommended set of Circuit Teleservices to be supported by a PLMN in connection with other networks as a basis for defining the network capabilities required.

0.1 Normative 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. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document.*

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications"

[2] 3GPP TS 22.001: " Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN)".

[3] 3GPP TS 22.002: "Circuit Bearer Services (BS) supported by a Public Land Mobile Network (PLMN)".

[4] 3GPP TS 22.004: " General on supplementary services".

[5] 3GPP TS42.068 : "Voice Group Call Service (VGCS) - Stage 1".

[6] 3GPP TS 42.069 : "Voice Broadcast Service (VBS) - Stage 1".

[7] 3GPP TS 23.040: " Technical realization of the Short Message Service (SMS) Point-to-Point (PP)".

[8] 3GPP TS 23.041 : " Technical realization of Short Message Service Cell Broadcast (SMSCB)".

[9] 3GPP TS 24.008: "Mobile radio interface layer 3 specification".

[10] 3GPP TS 27.001 : " General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".

[11] 3GPP TS 27.005: " Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE - DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)".

[12] ITU-T Recommendation T.4: "Standardization of group 3 facsimile apparatus for document transmission".

[13] ITU-T Recommendation T.30: "Procedures for document facsimile transmission in the general switched telephone network".

[14] 3GPP TS 22.101: "Service Principles".

0.2 Abbreviations

Abbreviations used in this TS are listed in 3GPP TR 21.905[1].

1 Framework for describing circuit teleservices supported

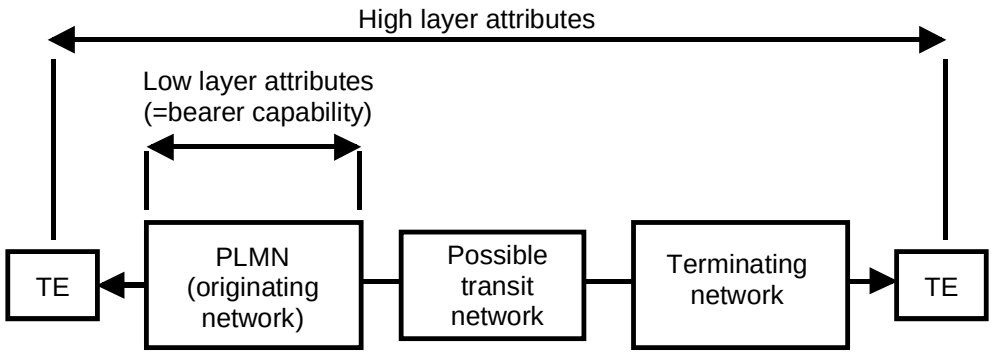
Teleservices supported by a PLMN are described by a number of attributes which are intended to be largely independent.

These attributes are described and defined in specification 3GPP TS 22.001 [2].

They are grouped into three categories:

- High layer attributes;
- Low layer attributes (describing the Bearer capabilities which support the Teleservice).
  - information transfer attributes;
  - access attributes.
- General attributes.

Figure 1 shows the relationship between the different categories of services attributes, and their scope within a Teleservice.



NOTE 1: A transit network may not exist.
NOTE 2: Communication may be established from both ends in principle.

Figure 1: Relationship between the categories of services attributes and their scope within a Teleservice

2 List of the teleservice attributes

Table 1 gives the list of the attributes. For the definitions and possible values of these attributes, see 3GPP TS 22.001 [2].

Table 1: List of Teleservice attributes

1. High layer capabilities	1.1 Type of user information	Dominant Teleservice attribute category
	1.2 Layer 4 protocol functions	
	1.3 Layer 5 " "	Secondary attributes
	1.4 Layer 6 " "	" "
	1.5 Layer 7 " "	
2. Low layer capabilities (describing the Bearer capability which supports the Teleservice)	2.1 Information transfer	" "
	2.1.1 Information transfer capabilities	" "
	2.1.2 Information transfer mode	" "
	2.1.3 Information transfer rate	Individual services (in the category)
	2.1.4 Structure	
	2.1.5 Establishment of communication	
	2.1.6 Communication configuration	
	2.1.7 Symmetry	
	2.2 Access (3GPP TS 22.001)	Qualifying attributes
	2.2.1 Signalling access	" "
	2.2.2 Information access	" "
	2.3 Interworking	" "
	2.3.1 Terminating network type	" "
	2.3.2 National/international interworking	Further specify the individual services
	2.3.3 Interface of terminal equipment	
3. General	3.1 Supplementary services provided	
	3.2 Quality of service	
	3.3 Operational and commercial	

3 List of teleservice categories and individual teleservices

Table 2 presents a list of all Teleservices categories and of individual Teleservices and the associated dominant and secondary attributes.

4 Description of individual teleservices

The annex contains a data sheet per Teleservice with all attributes and comments.

5 Bearer capabilities supporting teleservices

According to specification 3GPP TS 22.001 [2] the Bearer Capability defines the technical features of a Teleservice as they appear to the user at the customer access point or an appropriate interface of a fixed network. The Bearer Capability is characterized by information transfer, access and interworking attributes. The same set of attributes as for a Bearer Service is used. A Bearer Capability is associated with every Teleservice.

Table 2: Teleservice categories and Teleservices

Dominant attribute	**Category of teleservice**		**Individual Teleservice**		
Type of user in- formation	No	Name	No	Name	
Speech	1	Speech trans-mission	11 12	Telephony Emergency Calls	
Short message	2	Short message service	21 22 23	Short message MT/PP Short message MO/PP Cell Broadcast Service	
Facsimile	6	Facsimile trans - mission	61	Alternate speech and facsimile group 3	T[1] NT[2]
			62	Automatic Facsimile group 3	T[1] NT[2]
Speech	9	Voice Group service[3]	91 92	Voice Group Call Service Voice Broadcast Service	

Note 1: The transparent facsimile services apply to GERAN A/Gb mode of operation only.

Note 2: The non-transparent facsimile services apply to UTRAN only.

Note 3: The Voice Group Services, TS 91 and TS 92 apply to GERAN A/Gb mode of operation only.

Annex A (normative): Description of individual Teleservices

NOTE 1: Within the PLMN the "Information transfer rate" attribute is not indicated.

A.1 Individual Teleservices

A.1.1 Telephony

Teleservice 11, Telephony							
ATTRIBUTES	1. HLC	1.1 Type or user information			speech		
		1.2 Layer 4 protocol functions			-		
		1.3 Layer 5 protocol functions			-		
		1.4 Layer 6 protocol functions			-		
		1.5 Layer 7 protocol functions			-		
	2. LLC	2.1 Inform transfer	2.1.1 Information transfer capability		speech (digital representation)		
			2.1.2 Information transfer mode		circuit		
			2.1.3 Information transfer rate		not applicable		
			2.1.4 Structure		not applicable		
			2.1.5 Establishment of connection		demand MO MT		
			2.1.6 Communication configuration		point-to-point		
			2.1.7 Symmetry		bidirectional symmetry		
		2.2 Access at UE	2.2.1 Signalling access		manual		
			2.2.2 Information access (3GPP TS 22.001)	rate	full rate/half rate		
				interface			
		2.3 Inter-working	2.3.1 Visible network type		PSTN/ISDN/ -PLMN		
			2.3.2 National/Internat. interworking		international/national		
			2.3.3 Interface of TE to terminating		2 wire, analogue	4 wire S (B+B+D)	ME
	3. Gen	3.1 Supplementary service provided			3GPP TS 22.004		
		3.2 Quality of service					

Comments:

This service provides the transmission of speech information and audible signalling tones of the PSTN/ISDN. In the PLMN and the fixed network processing technique appropriate for speech such as analogue transmission, echo cancellation and low bit rate voice encoding may be used. Hence, bit integrity is not assured.

1) Transparency for telephone signalling tones is provided.

2) Transparency for voice band facsimile signals is not mandatory. (Appropriate bearer services see 3GPP TS 22.002 [3].)

3) Transparency for end to end speech encryption is not mandatory. If a user needs to apply this technique an appropriate bearer service (3GPP TS 22.002 [3]) can be used.

4) Transmission of DTMF is provided in the mobile to fixed direction (e.g. for controlling voice mail boxes) during any time of an established call.

5) In A/Gb mode of operation (GERAN) speech teleservices may be provided using the Full Rate (full rate, version 1), Enhanced Full Rate (full rate, version 2), Half Rate (half rate, version 1), Adaptive Multirate (AMR) or Wideband Adaptive Multirate (AMR-WB) speech codecs. The default speech codec to provide speech service in this case is Full Rate.

6) In UTRAN operation speech teleservices may be provided using the Adaptive Multirate (AMR) or Wideband Adaptive Multirate (AMR-WB) speech codecs. The default speech codec to provide speech service in this case is AMR.

7) In GERAN Iu mode of operation speech teleservices may be provided using the Adaptive Multirate (AMR) or Wideband Adaptive Multirate (AMR-WB) or Enhanced Full Rate (EFR) speech codecs. Both the Narrow Band AMR codec family (Full Rate AMR and Half Rate AMR) and the EFR codec shall be supported by the UE. The network shall either support at least the AMR or the EFR codec.

A.1.2 Emergency calls

Teleservice 12, Emergency calls						
	1.	1.1 Type or user information			speech (with or without additional emergency related data)	
A	HLC	1.2 Layer 4 protocol functions			-	
T		1.3 Layer 5 protocol functions			-	
T		1.4 Layer 6 protocol functions			-	
R		1.5 Layer 7 protocol functions			-	
I	2.	2.1	2.1.1 Information transfer capability		speech (digital representation and may include emergency related data)	
B	LLC		2.1.2 Information transfer mode		circuit	
U		Inform	2.1.3 Information transfer rate		not applicable for speech only call	
T		transfer	2.1.4 Structure		not applicable	
E			2.1.5 Establishment of connection		demand MO MT	
S			2.1.6 Communication configuration		point-to-point	
			2.1.7 Symmetry		bidirectional symmetry (when present the data component may be a symmetric or an asymmetric bidirectional transmission)	
		2.2	2.2.1 Signalling access		manual	
		Access	2.2.2 Information access	rate	full rate/half rate	
		at UE	(3GPP TS 22.001)	interface		
		2.3	2.3.1 Visible network type		PSTN	ISDN
		Inter-	2.3.2 National/Internat. interworking		national	
		working	2.3.3 Interface of TE to terminating Ntwk.		2 wire	4 wire
	3.	3.1 Supplementary service provided			3GPP TS 22.004 (see note 3)	
	Gen	3.2 Quality of service				

Comments:

1) A standardized access method throughout all PLMNs is mandatory. See 3GPP TS 22.101 [14] for further information on emergency call requirements.

2) It shall be an option of the network operator whether to accept emergency calls coming from user equipment which do not transmit an IMSI or a TMSI.

3) Emergency calls supersede all constraints imposed by supplementary services or user equipment features used for other Tele or Bearer services. The lock state of the UE is overridden by the SOS-procedure.

4) Emergency calls will be routed to the emergency services in accordance with national regulations.

5) In order to help identifying callers in cases of misuse databases in the PLMN may be accessed to retrieve the identity of the calling UE. When applicable, and subject to national regulations, the Public Safety Answering Point (PSAP) may use the related data sent in conjunction with the emergency call and provide this information to the lawful authorities.

A.1.3 Short Message Service (SMS)

A.1.3.1 Short message service MT/PP

Teleservice 21, Short Message MT point-to-point 1), 2)					
ATTRIBUTES	1.	1.1 Type or user information			short message, ≤ 160 characters
		1.2 Layer 4 protocol functions			
		1.3 Layer 5 protocol functions			see 3GPP TS23.040
		1.4 Layer 6 protocol functions			see 3GPP TS 23.040
		1.5 Layer 7 protocol functions			see 3GPP TS 23.040
	2.	2.1 Inform transfer	2.1.1 Information transfer capability		not applicable
			2.1.2 Information transfer mode		not applicable
			2.1.3 Information transfer rate		not applicable
			2.1.4 Structure		not applicable
			2.1.5 Establishment of connection		not applicable
			2.1.6 Communication configuration		not applicable
			2.1.7 Symmetry		not applicable
		2.2 Access at UE	2.2.1 Signalling access		see 3GPP TS 27.005
			2.2.2 Information access (3GPP TS 22.001)	rate	not applicable
				interface	
		2.3 Inter-working	2.3.1 Visible network type		not applicable 3)
			2.3.2 National/Internat. interworking		not applicable 3)
			2.3.3 Interface of TE to terminating Ntwk.		not applicable 3)
	3. Gen	3.1 Supplementary service provided			3GPP TS 22.004
		3.2 Quality of service			

Comments:

1) This service provides the transmission of a short message from a message handling system (service centre) to a user equipment. The service centre is functionally separated from the PLMN.

2) After reception an acknowledgement message should be sent back.

3) There is only an interworking between the PLMN and SMS Service Centre (SMS-SC). Connections from the fixed network to the SMS-SC are out of the scope of the 3GPP specifications.

4) The information transfer attributes refer to the connection-oriented services (ISDN, Bluebook Q.931). The Short Message Service is not a connection orientated service, hence the transfer attributes here are not applicable.

5) SMS MT/PP teleservice can be provided via both the CS and PS domains.

A.1.3.2 Short message service MO/PP

Teleservice 22, Short Message MO point-to-point 1), 2)					
	1.	1.1 Type or user information			short message, ≤ 160 characters
A		1.2 Layer 4 protocol functions			
T		1.3 Layer 5 protocol functions			see 3GPP TS 23.040
T		1.4 Layer 6 protocol functions			see 3GPP TS 23.040
R		1.5 Layer 7 protocol functions			see 3GPP TS 23.040
I	2.	2.1	2.1.1 Information transfer capability		not applicable
B			2.1.2 Information transfer mode		not applicable
U		Inform	2.1.3 Information transfer rate		not applicable
T		transfer	2.1.4 Structure		not applicable
E			2.1.5 Establishment of connection		not applicable
S			2.1.6 Communication configuration		not applicable
			2.1.7 Symmetry		not applicable
		2.2	2.2.1 Signalling access		see 3GPP TS 27.005
		Access	2.2.2 Information access	rate	not applicable
		at UE	(3GPP TS 22.001)	interface	
		2.3	2.3.1 Visible network type		not applicable 3)
		Inter-	2.3.2 National/Internat. interworking		not applicable 3)
		working	2.3.3 Interface of TE to terminating Ntwk.		not applicable 3)
	3.	3.1 Supplementary service provided			3GPP TS 22.004
	Gen	3.2 Quality of service			

Comments:

1) This service provides the transmission of a short message from a user equipment to a message handling system (service centre). The service centre is functionally separated from the PLMN.

2) After reception an acknowledgement message is sent back.

3) There is only an interworking between the PLMN and SMS Service Centre (SMS-SC). Connections from the fixed network to the SMS-SC are out of the scope of the 3GPP specifications.

4) The information transfer attributes refer to the connection-oriented services (ISDN, Bluebook Q.931). The Short Message Service is not a connection orientated service, hence the transfer attributes here are not applicable.

5) Information from the following sources at the UE might be transmitted:

   - a pre-recorded message in a store;
   - a number from the dialling key pad;
   - information from an external keyboard or terminal equipment connected to the ME.

6) SMS MO/PP teleservice can be provided via both the CS and PS domains.

A.1.3.3 Cell Broadcast Service (CBS)

Teleservice 23, Cell Broadcast Service					
	1.	1.1 Type or user information			short message, ≤ 93 characters 4)
A		1.2 Layer 4 protocol functions			
T		1.3 Layer 5 protocol functions			see 3GPP TS 23.041
T		1.4 Layer 6 protocol functions			see 3GPP TS 23.041
R		1.5 Layer 7 protocol functions			see 3GPP TS 23.041
I	2.	2.1	2.1.1 Information transfer capability		not applicable
B			2.1.2 Information transfer mode		not applicable
U		Inform	2.1.3 Information transfer rate		not applicable
T		transfer	2.1.4 Structure		not applicable
E			2.1.5 Establishment of connection		not applicable
S			2.1.6 Communication configuration		not applicable
			2.1.7 Symmetry		
		2.2	2.2.1 Signalling access		not applicable
		Access	2.2.2 Information access	rate	not applicable
		at UE	(3GPP TS 22.001)	interface	not applicable
		2.3	2.3.1 Visible network type		2)
		Inter-	2.3.2 National/Internat. interworking		2)
		working	2.3.3 Interface of TE to terminating Ntwk.		2)
	3.	3.1 Supplementary service provided			3GPP TS 22.004
	Gen	3.2 Quality of service			

Comments:

1) This service provides the transmission of a short message from a message handling system to all user equipments in the area of a Base Station. The service centre is functionally separated from the PLMN. There is no acknowledgement message after reception.

2) An interworking only with the Cell-Broadcast Service Centre is foreseen. Connections from the fixed network to the SC are out of the scope of the 3GPP specifications.

3) The information transfer attributes refer to the connection-oriented services (ISDN, Bluebook Q.931). The Short Message Service is not a connection orientated service, hence the transfer attributes here are not applicable.

4) 3GPP TS 23.041 provides up to 15 concatenated "pages" of up to 93 characters each.

A.1.3.4 Short message service description

Description of:

teleservice 21, "Short message MT/PP";

teleservice 22 "Short message MO/PP"; and

teleservice 23 "Cell Broadcast Service ".

1 Introduction

The purpose of this annex is to describe the short message teleservice.

Three different types of short messages are defined, namely short message MT/PP (Mobile Terminated/Point-to-point), short message MO/PP (Mobile Originated/Point-to-point) and Cell Broadcast Service messages.

2 Definition of the short message service MT/PP and MO/PP

For both mobile originated and mobile terminated services the Service Centre acts as store and forward centre. The Service Centre is functionally separate from the PLMN although this does not preclude an integrated implementation. More than one service centre may be connected to a PLMN. Messages may be input to the service centre from a fixed network customer by means of a suitable telecommunications service either from the fixed network, e.g. speech, telex, facsimile, etc. or from a mobile network customer. The list is not intended to be comprehensive and it is entirely open to the service centre provider what telecommunication services it supports. The service centre shall then reformat the message into that provided by the short message service, for delivery to the user equipment.

For mobile originated SMS messages the SMT formats the message into that used by the SMS service and sends to the service centre (to allow interworking with ERMES also ERMES-format addresses may be sent from the UE to the SC). In general the user may use alphanumeric addresses for more user convenience. In principle the message may be intended for a subscriber on the fixed network or for another mobile subscriber. For the message to another mobile subscriber the service centre should deliver as described in this section.

The message text is limited to a length of 160 characters.

The originator does not need to know the location of the mobile subscriber to whom he wants to send a message. The message is addressed to the recipient's Directory Number.

As a part of the basic service for both MT and MO, an acknowledgement will be provided on a message by message basis to the SC (MT) or UE (MO). This acknowledgement indicates that the PLMN has successfully transferred the message to the UE (MT) or SC (MO).

Optionally, the SC may offer final delivery notification to the originator. In this case, the originator may request to have a notification returned from the SC informing her about the delivery of the Short Message to the recipient. This delivery report indicates whether this particular message has been correctly received at the receiving station or not, to the extent that the SC is able to establish this. It does not indicate whether the message has been read. If the delivery report is negative, i.e. the message has not been successfully delivered to the recipient, it shall include the failure cause.

The delivery report is sent to the originator, if reachable, as soon as the information (positive or negative) is available.

In addition, the SC may use the delivery report capabilities for other purposes, such as intermediate status reports etc.

All point-to-point short messages are either to or from the service centre. A message from one user equipment to another must pass through a service centre. This case is effectively an MO and MT message together. The two transactions are separate, though clearly related.

Point-to-point messages may be sent or received when the UE is engaged on a call (voice or data), or in idle mode. However, messages which overlap the boundary of such a call, or during a handover, may be lost, in which case they will be sent again.

The accounting between the SC and PLMN if applicable is for agreement between those parties.

The originator of a short message may notify the SC of an expiry time after which the message is no longer of value and may be deleted by the SC. During the validity period of the message, the SC shall try to deliver the message. After the expiry date the SC will take no further step to deliver the message, but its status may be kept by the SC to enable the originator to enquire the result. If the originator of the short message does not request any expiry time a standard value, e.g. 24 hours, is used.

The Service Centre may give a short message a priority status. This priority message will be attempted to be delivered irrespective of whether or not the UE has been identified as temporarily absent. Delivery of non-priority messages will not be attempted if the UE has been identified as temporarily absent.

If necessary, the originator may request the SC to perform specific operations on a previously submitted short message, such as provision/cancellation of a report or deletion of the short message.

The recipient of a short message will be informed by the message about the date and time it was submitted to the SC.

If the UE Message Store is full, the Message Store Overflow indicator is activated, and any further messages received will not be accepted. An appropriate specific non-acknowledgement message shall be returned. By help of an optional flow control mechanism further waiting short messages will be transmitted after the UE has memory available again.

3 Reply path

The reply path facility is an enhancement to the point-to-point SMS. In the mobile originated case the mobile user will request his Service Centre to guarantee to forward a single reply to his message back to him (Reply Path).

In the mobile terminated case the recipient of the Short Message will get an indication by the service centre that a reply via this Service centre will be accepted on a subscriptionless basis. The recipient may then submit a reply to this SC (within a period of time defined by the SC operator), which is then forwarded to the submitter of the original message.

No subscription with the Service centre is needed by the replying user. The costs, if any, for the reply path are allocated to the originator.

4 Definition of the Cell Broadcast Service

The cell broadcast service is a Teleservice which enables an Information Provider to submit short messages for broadcasting to a specified area within the PLMN.

The cell broadcast service is characterized by the following aspects:

- No acknowledgement is sent from the UE.
- The cell broadcast message is sent in a limited area, defined by the originator of the message, by agreement with the PLMN.
- An identifier is associated with each message. This identifier is received by the UE and used by the short message function of the UE not to store broadcast messages which are not wanted or which have already been received.
- Generally, cell broadcast messages will be sent continuously, so that all such messages are sent in turn, and then repeated. The cycle time will need to be short enough for important messages to be received by travellers moving through a group of cells.
- Cell broadcast messages are MT only. The origination of these messages is outside the scope of 3GPP specifications.
- The maximum length of each cell broadcast message will be 93 characters.
- Cell broadcast DRX mode is defined to improve the battery life for User equipment. This feature is optional.
- Reception of CBS messages for a UE is not a requirement if it is connected in the CS domain. It should be possible for a UE to receive messages if it is connected in the PS domain and no data is currently transmitted.

A.1.4 Alternate speech/facsimile G3

Teleservice 61, Alternate speech and facsimile group 3							
	1.	1.1 Type or user information			facsimile/speech		
A	HLC	1.2 Layer 4 protocol functions			Procedures according to ITU-T		
T		1.3 Layer 5 protocol functions			recommendation T.30/T4.		
T		1.4 Layer 6 protocol functions					
R		1.5 Layer 7 protocol functions					
I	2.	2.1	2.1.1 Information transfer capability		alternate speech/group 3 fax		
B	LLC		2.1.2 Information transfer mode		circuit		
U		Inform	2.1.3 Information transfer rate		up to 14400 bits/s		
T		transfer	2.1.4 Structure		not applicable		
E			2.1.5 Establishment of connection		demand (MO MT)		
S			2.1.6 Communication configuration		point-to-point		
			2.1.7 Symmetry		bidirectional symmetry		
		2.2	2.2.1 Signalling access		I.440/450 (GSM 04.08)		
		Access	2.2.2 Information access	rate	fullrate		
		at UE	(3GPP TS 22.001)	interface	2 wire analogue		
		2.3	2.3.1 Visible network type		PSTN	ISDN	PLMN
		Inter-	2.3.2 National/Internat. interworking		international/national		
		working	2.3.3 Interface of TE to terminating		2 wire, analogue/UE		
	3.	3.1 Supplementary service provided			3GPP TS 22.004		
	Gen	3.2 Quality of service					

Comments:

1) This Teleservice allows the connection of ITU-T group 3 fax apparatus (send and/or receive) to the user equipments of a PLMN. Facsimile connections may be established to/from group 3 apparatus in the PSTN, ISDN or PLMN.

2) A high quality of service even under bad radio conditions and/or in connection to/from moving vehicles is required.

3) Both speech and fax portions of the call will use a full rate. The fax portion of the call may use multiple full rate channels.

4) Subscription for TS61 includes also subscription for TS62 (refer to 3GPP TS 22.001 [2]). For this reason and in order to allow a user to change between ME supporting TS61 or TS62 both a network and a UE supporting TS61 shall also accept call set-ups for TS62. If a subscriber originates/receives a TS61 call but either the UE or the network do not support TS61 (but supports TS62), then TS61 shall be negotiated to TS62 in accordance to the rules specified in 3GPP TS 27.001 [10]. If the negotiation does not succeed, then the call shall be released.

A.1.5 Automatic facsimile G3

Teleservice 62, Alternate facsimile group 3							
	1.	1.1 Type or user information			facsimile		
A	HLC	1.2 Layer 4 protocol functions			Procedures according to ITU-T		
T		1.3 Layer 5 protocol functions			recommendation T.30/T4.		
T		1.4 Layer 6 protocol functions					
R		1.5 Layer 7 protocol functions					
I	2.	2.1	2.1.1 Information transfer capability		Facsimile group 3		
B	LLC		2.1.2 Information transfer mode		Circuit		
U		Inform	2.1.3 Information transfer rate		up to 14400 bits/s		
T		Transfer	2.1.4 Structure		not applicable		
E			2.1.5 Establishment of connection		demand (MO MT)		
S			2.1.6 Communication configuration		point-to-point		
			2.1.7 Symmetry		bidirectional symmetry		
		2.2	2.2.1 Signalling access		I.440/450 (GSM 04.08)		
		Access	2.2.2 Information access	rate	Fullrate		
		At UE	(3GPP TS 22.001)	interface	2 wire, analogue		
		2.3	2.3.1 Visible network type		PSTN	ISDN	PLMN
		Inter-	2.3.2 National/Internat. interworking		international/national		
		Working	2.3.3 Interface of TE to terminating		2 wire, analogue/UE		
	3.	3.1 Supplementary service provided			3GPP TS 22.004		
	Gen	3.2 Quality of service					

Comments:

1) This teleservice supports a Facsimile Group 3 Autocalling/Autoanswering mode only.

2) This teleservice allows connection of ITU-T group 3 fax apparatus to and from the user equipments of a PLMN. Facsimile connections may be established to and from group 3 apparatus in the PSTN, ISDN or PLMN.

3) A high quality of service even under bad radio conditions and/or in connection to/from moving vehicles is required.

4) If a Network receives a call set-up for TS61 and if the subscriber in question has a subscription for TS62 only, then the network shall negotiate TS61 to TS62 in accordance to the rules specified in 3GPP TS 27.001 [10]. If the negotiation does not succeed, then the call shall be released. See also item 4) in the description of TS61.

5) This teleservice may use the multislot mechanism of GERAN.

A.1.6 Voice Group Call Service

Teleservice 91, Voice Group Call Service							
	1.	1.1 Type or user Information			speech		
A	HLC	1.2 Layer 4 protocol functions			-		
T		1.3 Layer 5 protocol functions			-		
T		1.4 Layer 6 protocol functions			-		
R		1.5 Layer 7 protocol functions			-		
I	2.	2.1	2.1.1 Information transfer capability		speech (digital representation)		
B	LLC		2.1.2 Information transfer mode		circuit		
U		Inform	2.1.3 Information transfer rate		not applicable		
T		transfer	2.1.4 Structure		not applicable		
E			2.1.5 Establishment of connection		demand MO MT		
S			2.1.6 Communication configuration		multipoint		
			2.1.7 Symmetry		bidirectional symmetry		
		2.2	2.2.1 Signalling access		manual		
		Access	2.2.2 Information access	rate	full rate/half rate		
		at UE	(3GPP TS 22.001)	interface			
		2.3	2.3.1 Visible network type		PSTN/ISDN/ PLMN		
		Inter-	2.3.2 National/Internat. interworking		international/national		
		working	2.3.3 Interface of TE to terminating		2 wire, analogue	4 wire S (B+B+D)	ME
	3.	3.1 Supplementary service provided			3GPP TS 42.068		
	Gen	3.2 Quality of service					

Comments:

This service provides for speech conversation of a predefined group of service subscribers in half duplex mode on the radio link taking into account multiple mobile service subscribers involved in the VGCS call per cell. A detailed service description is given in 3GPP TS 42.068 [5].

This teleservice shall only be provided via a GERAN A/Gb mode of operation.

A.1.7 Voice Broadcast Service

Teleservice 92, Voice Broadcast Service							
	1.	1.1 Type or user Information			speech		
A	HLC	1.2 Layer 4 protocol functions			-		
T		1.3 Layer 5 protocol functions			-		
T		1.4 Layer 6 protocol functions			-		
R		1.5 Layer 7 protocol functions			-		
I	2.	2.1	2.1.1 Information transfer capability		speech (digital representation)		
B	LLC		2.1.2 Information transfer mode		circuit		
U		Inform	2.1.3 Information transfer rate		not applicable		
T		transfer	2.1.4 Structure		not applicable		
E			2.1.5 Establishment of connection		demand MO MT		
S			2.1.6 Communication configuration		broadcast		
			2.1.7 Symmetry		unidirectional		
		2.2	2.2.1 Signalling access		manual		
		Access	2.2.2 Information access	rate	full rate/half rate		
		at UE	(3GPP TS 22.001)	interface			
		2.3	2.3.1 Visible network type		PSTN/ISDN/ PLMN		
		Inter-	2.3.2 National/Internat. interworking		international/national		
		working	2.3.3 Interface of TE to terminating		2 wire, analogue	4 wire S (B+B+D)	ME
	3.	3.1 Supplementary service provided			3GPP TS 42.069		
	Gen	3.2 Quality of service					

Comments:

This service provides for the distribution of speech, generated by a service subscriber, to all or a predefined group service subscribers located in this area. A detailed service description is given in 3GPP TS 42.069 [6].

This teleservice shall only be provided via a GERAN A/Gb mode of operation.

Annex B (informative): Change history

Change history											
TSG SA#	SA Doc.	SA1 Doc	Spec	CR	Rev	Rel	Cat	Subject/Comment	Old	New	WI
Dec 1999			02.03					Transferred to 3GPP SA1	8.0.0	3.0.0	
SA#06			02.03						3.0.0		
SP-06	SP-99519	S1-991025	22.003	001		R99	D	Mainly an editorial update for GSM/3GPP use	3.0.0	3.1.0	
SP-07	SP-000069	S1-000140	22.003	002		R99	D	Editorial modification for change of SMS-CB to CBS and to correct the references	3.1.0	3.2.0	
SP-07	SP-000071	S1-000162	22.003	003		R00	B	Addition of Wideband AMR	3.1.0	4.0.0	
SP-10	SP-000687	S1-000866	22.003	004	1	Rel-4	C	Removal of TS61 and TS62 in NT mode from GSM in Rel-4 and later releases	4.0.0	4.1.0	FAX
SP-12	SP-010243	S1-010563	22.003	007		Rel-4	A	Removal of Voice Group Service	4.1.0	4.2.0	VGCS
SP-14	SP-010672	S1-011290	22.003	008		Rel-5	C	Clarification of requirements for support of codecs	4.2.0	5.0.0	AMRWB
SP-15	SP-020045	S1-020457	22.003	010	-	Rel-5	A	Editorial CR to correct terms and references	5.0.0	5.1.0	CORRECT
SP-15	SP-020164		22.003	011	1	Rel-5	C	Support of Legacy Transceivers in GERAN	5.0.0	5.1.0	AMR
SP-16	SP-020245	S1-020889	22.003	012		Rel-5	F	CR to 22.003 Corrections on ASCI and Fax due to GERAN Iu mode	5.1.0	5.2.0	TEI
SP-26	SP-040744	S1-040997	22.003			Rel-6		Updated from Rel-5 to Rel-6	5.2.0	6.0.0	
SP-34	-	-	22.003	-	-	Rel-7	-	Provision of Rel-7 version as a result of approval of 22.003-0013 for Rel-8	6.0.0	7.0.0	-
SP-34	SP-060776	S1-061424	22.003	013	-	Rel-8	C	Addition of emergency related data to a TS12 call	6.0.0	8.0.0	EData
SP-46	-	-	-	-	-	-	-	Updated to Rel-9 by MCC	8.0.0	9.0.0	
2011-03	-	-	-	-	-	-	-	-	Update to Rel-10 version (MCC)	9.0.0	10.0.0

History

Document history		
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