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Technical Specification

GEO-Mobile Radio Interface Specifications;
Part 2: Service specifications;
Sub-part 1: Teleservices supported by a
GMR-2 Public Satellite Mobile Network (PSMN);
GMR-2 02.003

Reference
DTS/SES-002-02003

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IPRs:

Project	Company	Title	Country of Origin	Patent n°	Countries Applicable
TS 101 377 V1.1.1	Digital Voice Systems Inc		US	US 5,715,365	US
TS 101 377 V1.1.1	Digital Voice Systems Inc		US	US 5,754,974	US
TS 101 377 V1.1.1	Digital Voice Systems Inc		US	US 5,226,084	US
TS 101 377 V1.1.1	Digital Voice Systems Inc		US	US 5,701,390	US
TS 101 377 V1.1.1	Digital Voice Systems Inc		US	US 5,826,222	US

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Project	Company	Title	Country of Origin	Patent n°	Countries Applicable
TS 101 377 V1.1.1	Ericsson Mobile Communication	Improvements in, or in relation to, equalisers	GB	GB 2 215 567	GB
TS 101 377 V1.1.1	Ericsson Mobile Communication	Power Booster	GB	GB 2 251 768	GB
TS 101 377 V1.1.1	Ericsson Mobile Communication	Receiver Gain	GB	GB 2 233 846	GB
TS 101 377 V1.1.1	Ericsson Mobile Communication	Transmitter Power Control for Radio Telephone System	GB	GB 2 233 517	GB

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Project	Company	Title	Country of Origin	Patent n°	Countries Applicable
TS 101 377 V1.1.1	Hughes Network Systems		US	Pending	US

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Project	Company	Title	Country of Origin	Patent n°	Countries Applicable
TS 101 377 V1.1.1	Lockheed Martin Global Telecommunic. Inc	2.4-to-3 KBPS Rate Adaptation Apparatus for Use in Narrowband Data and Facsimile Communication Systems	US	US 6,108,348	US
TS 101 377 V1.1.1	Lockheed Martin Global Telecommunic. Inc	Cellular Spacecraft TDMA Communications System with Call Interrupt Coding System for Maximizing Traffic ThroughputCellular Spacecraft TDMA Communications System with Call Interrupt Coding System for Maximizing Traffic Throughput	US	US 5,717,686	US
TS 101 377 V1.1.1	Lockheed Martin Global Telecommunic. Inc	Enhanced Access Burst for Random Access Channels in TDMA Mobile Satellite System	US	US 5,875,182	
TS 101 377 V1.1.1	Lockheed Martin Global Telecommunic. Inc	Spacecraft Cellular Communication System	US	US 5,974,314	US
TS 101 377 V1.1.1	Lockheed Martin Global Telecommunic. Inc	Spacecraft Cellular Communication System	US	US 5,974,315	US
TS 101 377 V1.1.1	Lockheed Martin Global Telecommunic. Inc	Spacecraft Cellular Communication System with Mutual Offset High-argin Forward Control Signals	US	US 6,072,985	US
TS 101 377 V1.1.1	Lockheed Martin Global Telecommunic. Inc	Spacecraft Cellular Communication System with Spot Beam Pairing for Reduced Updates	US	US 6,118,998	US

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Satellite Earth Stations and Systems (SES).

The present document is part 2, sub-part 1 of a multi-part deliverable covering Geo-Mobile Radio Interface Specification, as identified below:

Part 1: "General specifications";

Part 2: "Service specifications":

Sub-part 1: "Teleservices supported by a GMR-2 Public Satellite Mobile Network (PSMN); GMR-2 02.003";

Sub-part 2: "General on Supplementary Services; GMR-2 02.004";

Sub-part 3: "Security Aspects; GMR-2 02.009";

Sub-part 4: "Call Waiting (CW) and Call Hold (HOLD) Supplementary Services - Stage 1; GMR-2 02.083";

Sub-part 5: "Multiparty (MPTY) Supplementary Services; GMR-2 02.084";

Sub-part 6: "Service Accessibility; GMR-2 02.001";

Sub-part 7: "Operator Determined Barring (ODB); GMR-2 02.041";

Sub-part 8: "Call Barring Supplementary Services; GMR-2 02.088";

Sub-part 9: "Bearer Services (BS) supported by a GMR-2 Public Satellite Mobile Network (PSMN); GMR-2 02.002".

Part 3: "Network specifications";

Part 4: "Radio interface protocol specifications";

Part 5: "Radio interface physical layer specifications";

Part 6: "Speech coding specifications".

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Version 1.m.n

where:

- the third digit (n) is incremented when editorial only changes have been incorporated in the specification;

- the second digit (m) is incremented for all other types of changes, i.e. technical enhancements, corrections, updates, etc.

Introduction

GMR stands for GEO (Geostationary Earth Orbit) Mobile Radio interface, which is used for mobile satellite services (MSS) utilizing geostationary satellite(s). GMR is derived from the terrestrial digital cellular standard GSM and supports access to GSM core networks.

Due to the differences between terrestrial and satellite channels, some modifications to the GSM standard are necessary. Some GSM specifications are directly applicable, whereas others are applicable with modifications. Similarly, some GSM specifications do not apply, while some GMR specifications have no corresponding GSM specification.

Since GMR is derived from GSM, the organization of the GMR specifications closely follows that of GSM. The GMR numbers have been designed to correspond to the GSM numbering system. All GMR specifications are allocated a unique GMR number as follows:

GMR-n xx.zyy

where :

- xx.0yy (z = 0) is used for GMR specifications that have a corresponding GSM specification. In this case, the numbers xx and yy correspond to the GSM numbering scheme.

- xx.2yy (z = 2) is used for GMR specifications that do not correspond to a GSM specification. In this case, only the number xx corresponds to the GSM numbering scheme and the number yy is allocated by GMR.

- n denotes the first (n = 1) or second (n = 2) family of GMR specifications.

A GMR system is defined by the combination of a family of GMR specifications and GSM specifications as follows:

- If a GMR specification exists it takes precedence over the corresponding GSM specification (if any). This precedence rule applies to any references in the corresponding GSM specifications.

  NOTE: Any references to GSM specifications within the GMR specifications are not subject to this precedence rule. For example, a GMR specification may contain specific references to the corresponding GSM specification.

- If a GMR specification does not exist the corresponding GSM specification may or may not apply. The applicability of the GSM specifications is defined in GMR-n 01.201.

1   Scope

The present document describes and defines a recommended set of Teleservices to be supported by a GMR-2 PSMN in connection with other networks as a basis for defining the network capabilities required.

Teleservices not included in the present document should not be introduced unilaterally by a mobile network operator, if the provision of this service requires that the GMR-2 signalling specifications be modified.

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 and/or edition number or version number) or non-specific.

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

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

[1]   GMR-2 01.004 (ETSI TS 101 377-1-1): "GEO-Mobile Radio Interface Specifications; Part 1: General specifications; Sub-part 1: Abbreviations and acronyms; GMR-2 01.004".

[2]   GSM 02.01 (ETSI ETS 300 500 Edition 2): "Digital cellular telecommunication system (Phase 2); Principles of telecommunication services supported by a GSM Public Land Mobile Network (PLMN) (GSM 02.01 version 4.6.0)".

[3]   GSM 02.02 (ETSI ETS 300 501): "European digital cellular telecommunication system (Phase 2); Bearer Services (BS) supported by a GSM Public Land Mobile Network (PLMN)".

[4]   GMR-2 02.004 (ETSI TS 101 377-2-2): "GEO-Mobile Radio Interface Specifications; Part 2: Services specifications; Sub-part 2: General on supplementary services".

[5]   GSM 03.40 (ETSI ETS 300 536): "Digital cellular telecommunications system (Phase 2); Technical realization of Short Message Service (SMS) Point-to-Point (PP) (GSM 03.40 V4.13.0)".

[6]   GMR-2 04.008 (ETSI TS 101 377-04-07): "GEO-Mobile Radio Interface Specifications; Mobile radio interface layer 3 specification".

[7]   GSM 07.05 (ETSI ETS 300 585 Edition 5): "Digital cellular telecommunication system (Phase 2); Use of Data Terminal Equipment (DTE-DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS) (V4.8.1)".

[8]   ITU-T Recommendation T.4: "Standardization of Group 3 facsimile terminals for document transmission".

[9]   ITU-T Recommendation Q.931 " ISDN user-network interface layer 3 specification for basic call control".

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

3   Abbreviations

For the purposes of the present document, the abbreviations given in GMR-2 01.004 [1] apply.

4 Framework for describing Teleservices supported by a GMR-2 PSMN

Teleservices supported by a GMR-2 PSMN are described by a number of attributes which are intended to be largely independent.

These attributes are described and defined in specification GSM 02.01 [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.

NOTE: Teleservices generally make use of underlying lower layer capabilities of Bearer Services as defined in specification GSM 02.02 [3]. However, where Teleservices are provided by a single Administration, RPOA or other services provider, the combination of values of lower layer attributes applicable to specific Teleservices may not necessarily be identical to any of those identified for the Bearer Services appearing in specification GSM 02.02 [3].

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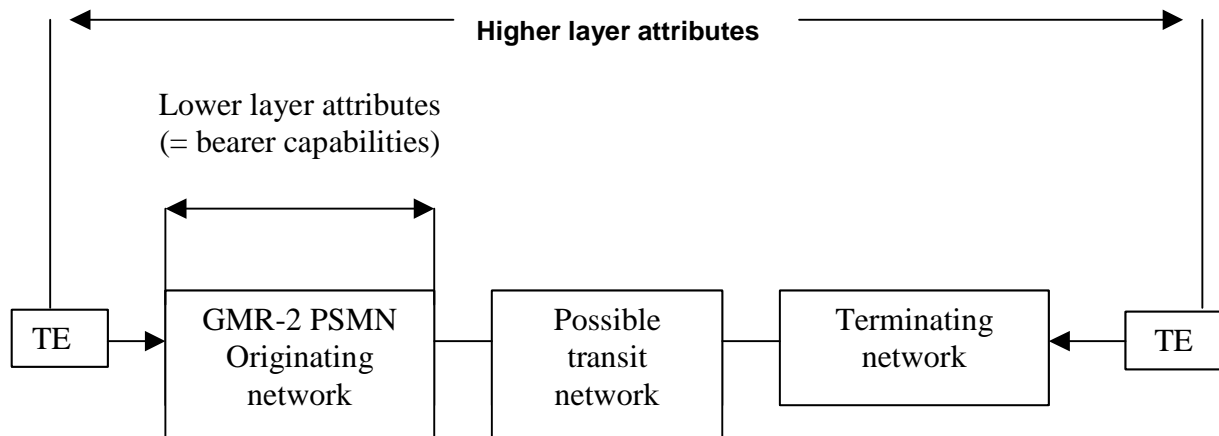

**Figure 1: Relationship between the categories of services attributes
and their scope within a Teleservice**

NOTE 1: A transit network may not exist.

NOTE 2: Communication may be established from both ends in principle.

5 List of the Teleservice attributes

Table 1 gives the list of the attributes. For the definitions and possible values of these attributes, see GSM 02.01 [2].

Table 1: List of Teleservice attributes

1. High layer capabilities	Type of user information Layer 4 protocol functions Layer 5 " " Layer 6 " " Layer 7 " "	Dominant Teleservice attribute category
2. Lower layer capabilities (describing the Bearer capability which supports the Teleservice)	Information transfer Information transfer capabilities Information transfer mode Information transfer rate Structure Establishment of communication Communication configuration Symmetry	Secondary attributes " " " " " " " " Individual services (in the category)
	Access (GSM 02.01 [2]) Signalling access Information access Interworking Terminating network type National/International interworking Interface of terminal equipment	Qualifying attributes " " " " " " " " Further specify the individual services
3. General	Supplementary services provided Quality of service Operational and commercial	

6 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.

7 Description of individual Teleservices

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

8 Bearer capabilities supporting Teleservices

According to specification GSM 02.01 [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.

9 Possible further evolution phases of Teleservices in a GMR-2 PSMN

Possible further evolution phases could become necessary. For instance, speech-coding procedures (rate speech codec) will provide for the reduction of the bit rate for speech transmission and thus increase the network capacity.

Table 2: Teleservice categories and Teleservices

Dominant Attribute	Category of Teleservice		Individual Teleservice		
Type of User Information	No.	Name	No.	Name	
Speech	1	Speech Transmission	11 12	Telephony Emergency calls	
Short Message	2	Short Message Service	21 22	Short Message MT/PP Short Message MO/PP	
Facsimile	6	Facsimile Transmission	62	Automatic Facsimile Group 3	T

NOTE: Direct access to private networks is foreseen by recommended provision A.

Annex A (normative):
Description of individual Teleservices

A.1   Teleservices

NOTE 1:   Interworking with Telex may be provided via teletex-telex- or other interworking functions.

NOTE 2:   Within the GSM PLMN the "Information transfer rate" attribute is not indicated, this is because the user may access the PLMN at either an "S" or "R" reference point. In addition, the "Information transfer rate" at other reference points within the PLMN assumed or otherwise may be different.

A.1.1   Telephony

```
Teleservice 11, Telephony
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A	1. HLC	1.1. Type of user information		speech
		1.2. Layer 4 protocol functions		-
		1.3. Layer 5 protocol functions		-
T		1.4. Layer 6 protocol functions		-
		1.5. Layer 7 protocol functions		-
T		2.1. Inform. transfer	2.1.1. Information transfer capability	speech (digital representation)
			2.1.2. Information transfer mode	circuit
R			2.1.3. Information transfer rate	not applicable
			2.1.4. Structure	not applicable
I	2. LLC		2.1.5. Establishment of connection	demand MO MT
			2.1.6. Communication configuration	point to point
			2.1.7. Symmetry	bidirectional symmetry
B		2.2. Access at MES	2.2.1. Signalling access	manual
U			2.2.2. Information access GSM 02.01 [2] | rate	half rate/quarter rate
			| interface	
T		2.3. Inter-working	2.3.1. Visible network type	PSTN/ISDN/GMR-2 - PSMN
			2.3.2. National/Internat. interworking	international/national
E			2.3.3. Interface of TE to terminating network	2 wire, analogue | 4 wire S (B + B + D) | GMR/ME
S	3. Gen	3.1. Supplementary service provided		GMR-2 02.004 [4]
		3.2. Quality of service		GSM 02.08(Withdrawn)

Comments:

This service provides the transmission of speech information and audible signalling tones of the PSTN/ISDN. In the GSM 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 GSM 02.02 [3]);

3) transparency for end to end speech encryption is not mandatory. If a user needs to apply this technique an appropriate bearer service (GSM 02.02 [3]) can be used;

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

A.1.2   Emergency calls

Teleservice 12, Emergency calls					
A	1. HLC	1.1. Type of user information		speech	
		1.2. Layer 4 protocol functions		-	
		1.3. Layer 5 protocol functions		-	
		1.4. Layer 6 protocol functions		-	
T		1.5. Layer 7 protocol functions		-	
T	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	
R			2.1.4. Structure	not applicable	
			2.1.5. Establishment of connection	demand MO	
I			2.1.6. Communication configuration	point to point	
			2.1.7. Symmetry	bidirectional symmetry	
B		2.2. Access at MES	2.2.1. Signalling access	manual	
U			2.2.2. Information access GSM 02.01 [2]	rate	half rate/quarter rate	
				interface		
T		2.3. Inter- working	2.3.1. Visible network type	PSTN	ISDN
			2.3.2. National/Internat. interworking	national	
E			2.3.3. Interface of TE to terminating network	2 wire	4 wire
S	3. Gen	3.1. Supplementary service provided		GMR-2 02.004 [4](see note 3)	
		3.2. Quality of service		GSM 02.08 (Withdrawn)	

Comments:

1) a standardized access method throughout all GMR-2 PSMNs is mandatory. In addition national emergency call numbers of PSTN/ISDN must be usable from an MES;

2) it shall be mandatory for emergency calls coming from mobile earth stations to transmit an IMSI;

3) emergency calls supersede all constraints imposed by supplementary services or mobile earth station features used for other Tele or Bearer services. The lock state of the MES 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 GMR-2 PSMN may be accessed to retrieve the identity of the calling MES.

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)				
A	1.	1.1. Type of user information		short message, ≤ 160 characters
		1.2. Layer 4 protocol functions		
		1.3. Layer 5 protocol functions		see GSM 03.40 [5]
		1.4. Layer 6 protocol functions		see GSM 03.40 [5]
T		1.5. Layer 7 protocol functions		see GSM 03.40 [5]
T	2.	2.1. Inform. transfer 4)	2.1.1. Information transfer capability	not applicable
			2.1.2. Information transfer mode	not applicable
R			2.1.3. Information transfer rate	not applicable
			2.1.4. Structure	not applicable
			2.1.5. Establishment of connection	not applicable
I			2.1.6. Communication configuration	not applicable
			2.1.7. Symmetry	not applicable
B		2.2. Access at MES	2.2.1. Signalling access	see GSM 07.05 [7]
U			2.2.2. Information access GSM 02.01 [2] rate	not applicable
			interface	
T		2.3. Inter-working	2.3.1. Visible network type	not applicable 3)
			2.3.2. National/Internat. interworking	not applicable 3)
E			2.3.3. Interface of TE to terminating network	not applicable 3)
S	3.	3.1. Supplementary service provided		GMR-2 02.004 [4]
	Gen	3.2. Quality of service		GSM 02.08 (Withdrawn)

Comments:

1) this service provides the transmission of a short message from a message handling system (service centre) to a mobile earth station. The service centre is functionally separated from the GMR-2 PSMN;

2) after reception an acknowledgement message should be sent back;

3) there is only an interworking between the PSMN and SMS Service Centre (SMS-SC). Connections from the fixed network to the SMS-SC are out of the scope of the GMR-2 Standard;

4) the information transfer attributes refer to the connection-oriented services (ISDN, ITU Recommendation Q.931 [9]). The Short Message Service is not a connection-orientated service, hence the transfer attributes here are not applicable.

A.1.3.2   Short message service MO/PP

Teleservice 22, Short Message MO point to point 1), 2)				
A	1.	1.1. Type of user information		short message, ≤ 160 characters
		1.2. Layer 4 protocol functions		
		1.3. Layer 5 protocol functions		see GSM 03.40 [5]
		1.4. Layer 6 protocol functions		see GSM 03.40 [5]
T		1.5. Layer 7 protocol functions		see GSM 03.40 [5]
T	2.	2.1. Inform. transfer	2.1.1. Information transfer capability	not applicable
			2.1.2. Information transfer mode	not applicable
R			2.1.3. Information transfer rate	not applicable
			2.1.4. Structure	not applicable
			2.1.5. Establishment of connection	not applicable
I			2.1.6. Communication configuration	not applicable
			2.1.7. Symmetry	not applicable
B		2.2. Access at MES	2.2.1. Signalling access	see GSM 07.05 [7]
U			2.2.2. Information access GSM 02.01 [2] — rate	not applicable
			interface	
T		2.3. Inter-working	2.3.1. Visible network type	not applicable 3)
			2.3.2. National/Internat. interworking	not applicable 3)
E			2.3.3. Interface of TE to terminating network	not applicable 3)
S	3.	3.1. Supplementary service provided		GMR-2 02.004 [4]
	Gen	3.2. Quality of service		GSM 02.08 (Withdrawn)

Comments:

1) this service provides the transmission of a short message from a mobile earth station to a message handling system (service centre). The service centre is functionally separated from the GMR-2 PSMN;

2) after reception an acknowledgement message is sent back;

3) there is only an interworking between the PSMN and SMS Service Centre (SMS-SC). Connections from the fixed network to the SMS-SC are out of the scope of the GSM Standard;

4) the information transfer attributes refer to the connection-oriented services (ISDN, ITU Recommendation. Q.931 [9]). 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 MES might be transmitted:

   - a pre-recorded message in a store;

   - a number from the dialling keypad;

   - information from an external keyboard or terminal equipment connected to the ME.

A.1.3.2.1   Short message service description

Description of:

* Teleservice 21, "Short message MT/PP";

* Teleservice 22, "Short message MO/PP"; and

* Teleservice 23, "Cell broadcast short messages".

A.1.3.2.1.1   Introduction

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

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

A.1.3.2.1.2   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 PSMN although this does not preclude an integrated implementation. More than one service centre may be connected to a PSMN. 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 mobile station.

For mobile originated SMS messages the SMT formats the message into that used by the SMS and sends to the service centre (to allow interworking with ERMES also ERMES-format addresses may be sent from the MES 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 clause.

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 MES (MO). This acknowledgement indicates that the PSMN has successfully transferred the message to the MES (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 GMR-2 point-to-point short messages are either to or from the service centre. A message from one mobile station 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 MES 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 PSMN 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 MES has been identified as temporarily absent. Delivery of non-priority messages will not be attempted if the MES 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 MES 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 MES has memory available again.

A.1.3.2.1.3 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.

The replying user needs no subscription with the Service centre. The costs, if any, for the reply path are allocated to the originator.

A.1.4 Automatic facsimile G3

Teleservice 62, Automatic facsimile group 3						
A	1.	1.1. Type of user information		facsimile		
	HLC	1.2. Layer 4 protocol functions		Procedures according to ITU		
T		1.3. Layer 5 protocol functions		Recommendation T.30 [10]		
		1.5. Layer 7 protocol functions		and ITU Recommendation T.4 [8]		
T		2.1. Inform. transfer	2.1.1. Information transfer capability	Facsimile group 3		
			2.1.2. Information transfer mode	circuit		
R			2.1.3. Information transfer rate	up to 9 600 bits/s		
			2.1.4. Structure	not applicable		
I	2.		2.1.5. Establishment of connection	demand MO MT		
	LLC		2.1.6. Communication configuration	point to point		
B			2.1.7. Symmetry	bidirectional symmetry		
		2.2. Access at MES	2.2.1. Signalling access	I.440/450 (GMR-2 04.008 [6])		
U			2.2.2. Information access GSM 02.01 [2]	rate	full rate	
				interface	2 wire, analogue	
T		2.3. Inter-working	2.3.1. Visible network type	PSTN	ISDN	GMR-2 PSMN
			2.3.2. National/Internat. interworking	international/national		
E			2.3.3. Interface of TE to terminating network	2 wire analogue/GMR-2 - MES		
S	3.	3.1. Supplementary service provided		GMR-2 02.004 [4]		
	Gen	3.2. Quality of service		GSM 02.08 (Withdrawn)		

Comments:

1) this Teleservice supports a Facsimile Group 3 Autocalling/Autoanswering mode only;

2) this Teleservice allows connection of CCITT group 3 fax apparatus to and from the mobile earth stations of a GMR-2 PSMN. Facsimile connections may be established to and from group 3 apparatus in the PSTN, ISDN or GMR-2 PSMN;

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

Annex B (informative):
Bibliography

- GSM 07.01 (ETSI ETS 300 582 Edition 4): "Digital cellular telecommunication system (Phase 2); General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS) (GSM 07.01 version 4.10.0)".

History

Document history		
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