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Digital cellular telecommunications system (Phase 2) (GSM); General on supplementary services (GSM 02.04)

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GSM

GLOBAL SYSTEM FOR
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Foreword

This European Telecommunication Standard (ETS) has been produced by the Special Mobile Group (SMG) Technical Committee (TC) of the European Telecommunications Standards Institute (ETSI).

This ETS defines a set of supplementary services to the teleservices and bearer services supported by a PLMN within the Digital cellular telecommunications system (Phase 2).

This ETS corresponds to GSM technical specification GSM 02.04 version 4.9.0.

The specification from which this ETS has been derived was originally based on CEPT documentation, hence the presentation of this ETS may not be entirely in accordance with the ETSI/PNE rules.

Reference is made within this ETS to GSM-TSs (NOTE).

Reference is also made within this ETS to GSM 02.80. series. The specifications in the series can be identified, with their full title, within the normative reference Clause of this ETS by the first three digits of their GSM reference number e.g. GSM 02.80 series, refers to GSM 02.81, GSM 02.82 etc.

NOTE: TC-SMG has produced documents which give the technical specifications for the implementation of the European digital cellular telecommunications system. Historically, these documents have been identified as GSM Technical Specifications (GSM-TSs). These TSs may have subsequently become I-ETSs (Phase 1), or ETSs (Phase 2), whilst others may become ETSI Technical Reports (ETRs). GSM-TSs are, for editorial reasons, still referred to in GSM ETSs.

Transposition dates	
Date of adoption of this ETS:	31 January 1996
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1 Introduction

1.1 Scope

The purpose of this European Telecommunication Standard (ETS) is to define a recommended set of supplementary services to the Teleservices and Bearer services which will be supported by a GSM PLMN in connection with other networks as a basis for the definition of the network capabilities required.

The descriptions of the different supplementary services are contained in specifications GSM 02.80 series.

Supplementary services not covered in GSM 02.04 or GSM 02.80 series cannot be introduced unilaterally in any GSM PLMN if they require modification of the GSM signalling Specifications.

Technical realization of supplementary services is described in Specifications GSM 03.11 and 04.10.

1.2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

[1]   GSM 01.04 (ETR 100): "European digital cellular telecommunication system (Phase 2); Abbreviations and acronyms".

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

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

[4]   GSM 02.03 (ETS 300 502): "European digital cellular telecommunication system (Phase 2); Teleservices supported by a GSM Public Land Mobile Network (PLMN)".

[5]   GSM 02.30 (ETS 300 511): "European digital cellular telecommunication system (Phase 2); Man-Machine Interface (MMI) of the Mobile Station (MS)".

[6]   GSM 02.81 (ETS 300 514): "European digital cellular telecommunication system (Phase 2); Line identification supplementary services - Stage 1".

[7]   GSM 02.82 (ETS 300 515): "European digital cellular telecommunication system (Phase 2); Call Forwarding (CF) supplementary services - Stage 1".

[8]   GSM 02.83 (ETS 300 516): "European digital cellular telecommunication system (Phase 2); Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 1".

[9]   GSM 02.84 (ETS 300 517): "European digital cellular telecommunication system (Phase 2); MultiParty (MPTY) supplementary services - Stage 1".

[10]   GSM 02.85 (ETS 300 518): "European digital cellular telecommunication system (Phase 2); Closed User Group (CUG) supplementary services - Stage 1".

[11]   GSM 02.86 (ETS 300 519): "European digital cellular telecommunication system (Phase 2); Advice of charge (AoC) supplementary services - Stage 1".

[12]   GSM 02.88 (ETS 300 520): "European digital cellular telecommunication system (Phase 2); Call Barring (CB) supplementary services - Stage 1".

[13]   GSM 03.11 (ETS 300 529): "European digital cellular telecommunication system (Phase 2); Technical realization of supplementary services".

[14]   GSM 04.10 (ETS 300 558): "European digital cellular telecommunication system (Phase 2); Mobile radio interface layer 3 Supplementary services specification General aspects".

[15]   GSM 04.80 (ETS 300 564): "European digital cellular telecommunication system (Phase 2); Mobile radio interface layer 3 supplementary services specification Formats and coding".

[16]   CCITT Recommendation I.210: "Principles of telecommunication services supported by an ISDN and the means to describe them".

1.3 Definitions and abbreviations

Abbreviations and acronyms used in this specification are listed in GSM 01.04.

2 General

2.1 Supplementary service

A supplementary service modifies or supplements a basic Telecommunication service.

NOTE 1:   Provision of supplementary services by PLMN operators may be considered as essential (E) or additional (A). E-supplementary services shall be made available in all GSM PLMNs. A-supplementary services may be offered by GSM PLMN operators for national service and can be made available internationally on the basis of bilateral agreement.

NOTE 2:   Offered supplementary services may be used by subscribers/users at their discretion.

2.2 Concepts associated with supplementary services

For the purpose of this Specification the following terms are defined:

Provision
    An action to make a service available to a subscriber. The provision may be:
- general: where the service is made available to all subscribers (subject to compatibility restrictions enforced) without prior arrangements being made with the service provider.
- pre-arranged: where the service is made available to an individual subscriber only after the necessary arrangements have been made with the service provider.

Withdrawal
    An action taken by the service provider to remove an available service from a subscriber's access. The withdrawal may be:
- general: where the service is removed from all subscribers provided with the service.
- specific: where the service is removed on an individual basis from subscribers provided with the service.

Registration
    The programming by the service provider or subscriber of information to enable subsequent operation of a service. The programming action involves input of specific supplementary information. For certain services the registration procedure may cause activation whilst for others the service may already be in the action phase.

Erasure
    The deletion by the service provider, the subscriber or the system of information stored against a particular service by a previous registration(s).

Activation

An action taken by either the service provider, the subscriber or the system to enable a process to run as and when required by the service concerned, resulting in the active phase. Some services can be either "operative" or "quiescent" (not operative) during the active phase according to whether or not the system would be able to invoke or use the service.

Deactivation

An action taken by either the service provider, the subscriber or the system to terminate the process started at the activation.

Invocation

An action to invoke the service required, taken by the subscriber (e.g. pressing a specific button) or automatically by the network or terminal as a result of a particular condition (e.g. calling number identification for each incoming call).

Normal operation with successful outcome

Description of the normal operation of the service, the normal served subscriber's actions and the system response. Decision points, timing and call progress signals would be some of the aspects defined for the service if they can be perceived by the subscriber.

Interrogation

The request by the subscriber to the PLMN to provide information about a specific supplementary service. This information can be requested by a

- status check;
  The following values can be returned by the PLMN:
  - not supported
  - active and operative
  - active and quiescent
  - not active
  Not all values are applicable to all supplementary services.

- data check;
  This interrogation function compares the data input by the subscriber during an interrogation procedure with the information stored in the PLMN. The PLMN signals an appropriate indication (e.g. "check is positive" or "check is negative").

- data request;
  This interrogation function enables the subscriber to obtain confirmation of her input data. The PLMN signals an appropriate indication (e.g. "the forwarded-to number is etc."). The response to a data request may comprise the status of the service (e.g. not active).

Exceptional operation or unsuccessful outcome

Abnormal situations not described in "normal operation with successful outcome". Procedures on time-out, unexpected signalling response and other such events would be defined.

Interaction with other supplementary services

When more than one supplementary service is active, new logical situations, decisions, priorities, etc., may arise. This section would identify and define the resolution of such situations as they affect subscriber perception of the service. Special procedures may therefore be required, e.g. to allow, where possible, the simultaneous use of different supplementary services by one mobile subscriber.

Interworking considerations

Identification of subscriber perceptions when a call exits from an ISDN/PLMN to another network or enters an ISDN/PLMN from another network (e.g. PSTN).

Unstructured SS Operations

These operations are characterised by:
- In the mobile to network direction the transparent transport of MMI strings entered by the user to the network.
- In the network to mobile direction the transparent transport of text strings that are displayed by the mobile for user information.