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Digital cellular telecommunications system (Phase 2) (GSM); Call Forwarding (CF) supplementary services; Stage 2 (GSM 03.82)

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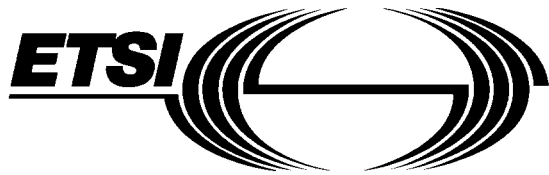
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Foreword

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 the stage 2 of the Call Forwarding (CF) supplementary services for the digital cellular telecommunications system (Phase 2).

This ETS corresponds to GSM Technical Specification (GSM-TS) GSM 03.82 version 4.8.1.

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 (see note).

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

Transposition dates	
Date of adoption	20 December 1996
Date of latest announcement of this ETS (doa):	30 April 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 October 1997
Date of withdrawal of any conflicting National Standard (dow):	31 October 1997

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0 Scope

This European Telecommunication Standard (ETS) gives the stage 2 description of the call forwarding supplementary services.

The group of supplementary services call offering supplementary services is divided into 4 different supplementary services:

- Call forwarding unconditional (CFU) (clause 1);
- Call forwarding on mobile subscriber busy (CFB) (clause 2);
- Call forwarding on no reply (CFNRy) (clause 3);
- Call forwarding on mobile subscriber not reachable (CFNRc) (clause 4).

0.1 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): "Digital cellular telecommunications system (Phase 2); Abbreviations and acronyms".
- [2] GSM 02.04 (ETS 300 503): "Digital cellular telecommunications system (Phase 2); General on supplementary services".
- [3] GSM 02.82 (ETS 300 515): "Digital cellular telecommunications system (Phase 2); Call Forwarding (CF) supplementary services - Stage 1".
- [3] GSM 03.11 (ETS 300 529): "Digital cellular telecommunications system (Phase 2); Technical realization of supplementary services".
- [4] GSM 03.15 (ETS 300 533): "Digital cellular telecommunications system (Phase 2); Technical realization of operator determined barring".

0.2 Abbreviations

Abbreviations used in this ETS are listed in GSM 01.04.

0.3 The forwarded-to number

As indicated in GSM 02.82 the forwarded-to numbers are stored in the international format. The transfer from the HLR to other network entities and storage in the VLR shall also be in the international format.

0.4 Cross phase compatibility

For the following supplementary services, a number of changes exist between this ETS and the phase 1 specification:

- Call forwarding unconditional;
- Call forwarding on mobile subscriber busy;
- Call forwarding on no reply;
- Call forwarding on mobile subscriber not reachable.

The main body of this ETS assumes that all network entities comply with this version of the service. In each case an additional subclause (subclause x.6) defines the additional requirements for when one or more network entities or the MS complies with the phase 1 specifications for the supplementary service procedures.

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1 Call forwarding unconditional (CFU)

1.1 Handling of call forwarding unconditional

1.1.1 Registration

At the beginning of registration subscription to the basic service, provision of the supplementary service and sufficiency of registration information has to be checked (see figure 1.2).

The following information has to be registered in the network:

- 1) the forwarded-to number (possibly including a sub-address);
- 2) information as to whether all calls or all calls of a specific basic service group should be forwarded.

The basic service group code

If the registration request received by the HLR does not contain any basic service group code, the registration shall be performed for all subscribed basic service groups for which CFU is provided, see figure 1.2.

The forwarded-to number

If the forwarded-to number is a number in the HPLMN country, it may be entered by the served mobile subscriber in three different formats, independent of his actual location, according to the schemes:

- 1) national (significant) number;
- 2) (trunk) prefix plus national (significant) number;
- 3) international prefix, country code, national (significant) number.

The received number may have to be converted to an international number before further processing (see figure 1.2).

The network may also validate the forwarded-to number before accepting the call forwarding registration request.

Supplementary Service interaction

Possible interaction situations between CFU and other call forwarding and barring supplementary services must then be checked. This is described in figure 1.2. Also see technical specifications GSM 02.04 and 02.82. For interaction between CFU and other supplementary services (i.e. not call barring or call forwarding services), the reader is referred to the respective technical specification for those supplementary services.

Notifications to the subscriber

When the mobile subscriber registers CFU, the network shall attempt to register and activate the service. The network will return notification of acceptance of the request. This notification will include the forwarded-to number and possibly the basic service group code to which CFU is registered.

If the system cannot accept a registration request, the network sends a notification that CFU registration was not successful to the served mobile subscriber.

The information flow for registration of CFU is shown in figure 1.1.

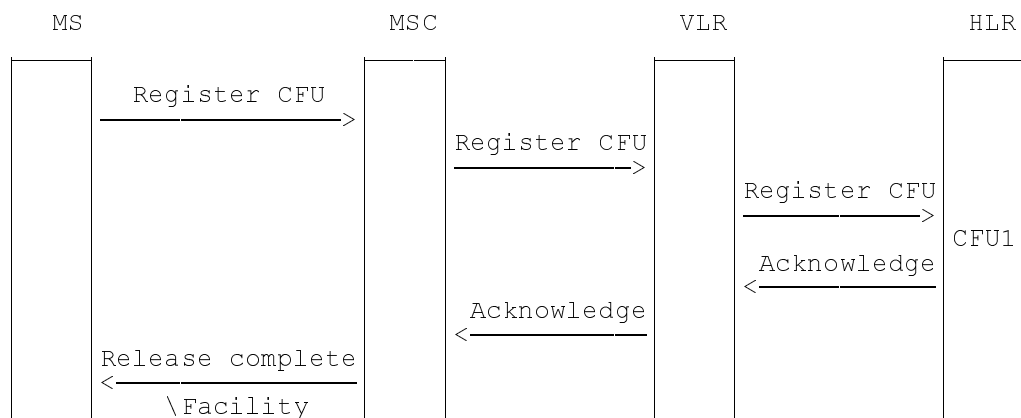


Figure 1.1: Registration of call forwarding unconditional

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1.1.2 Erasure

A previous registration can be erased in either of the following three ways:

- the subscriber can specifically erase a previous registration (to a basic service group) with an appropriate control procedure;
- the subscriber can register information for CFU (to a basic service group), thus causing previous registrations of CFU to be overridden (in the network this shall be handled as an erasure immediately followed by a registration);
- all information is erased as a result of withdrawal of the supplementary service (administrative handling).

The basic service group code

If the erasure request received by the HLR does not contain any basic service group code, the erasure request applies for all basic service groups for which CFU is registered (see figure 1.4).

Supplementary Service interaction

Possible interaction situations between CFU and other supplementary services must then be checked. This is shown in figure 1.4. Also see technical specifications GSM 02.04 and 02.82. For interaction between CFU and other supplementary services (i.e. not call barring or call forwarding services), the reader is referred to the respective technical specification for those supplementary services.

Notifications to the subscriber

When the mobile subscriber erases CFU, the network shall attempt to erase (and thus deactivate) the service. The network shall send an indication of acceptance or rejection of the erasure request to the served mobile station.

The information flow for erasure of CFU is shown in figure 1.3.

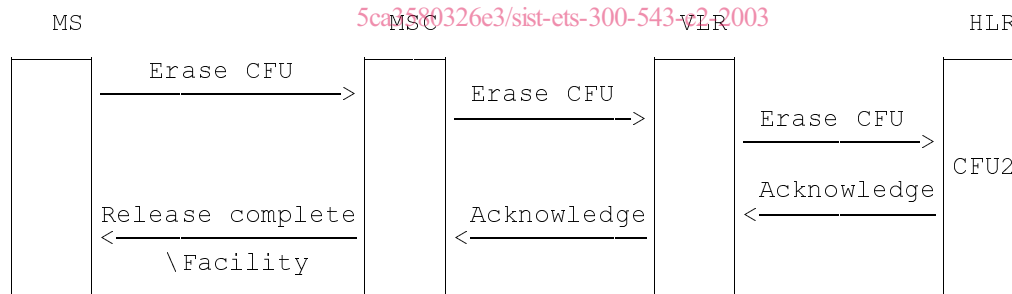


Figure 1.3: Erasure of call forwarding unconditional

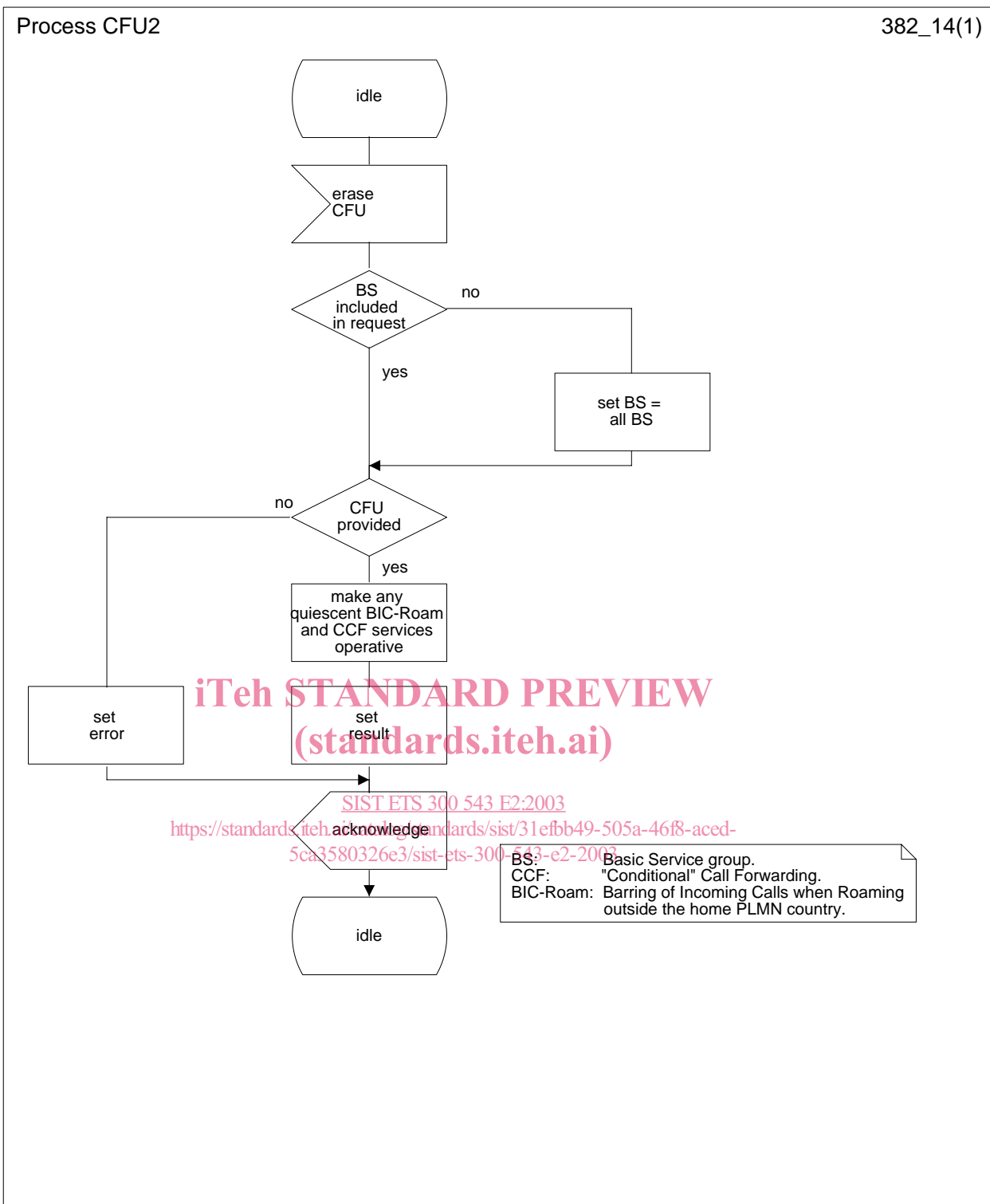


Figure 1.4: CFU2 Call forwarding unconditional erasure process