



EUROPEAN
TELECOMMUNICATION
STANDARD

ETS 300 202

December 1994

Source: ETSI TC-NA

Reference: T/NA1(89)24

ICS: 33.080

Key words: ISDN, supplementary service

**Integrated Services Digital Network (ISDN);
Call Deflection (CD) supplementary service
Service description**

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

Copyright Notification: No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1994. All rights reserved.

Contents

Foreword	5
1 Scope	7
2 Normative references	7
3 Definitions	8
4 Symbols and abbreviations	9
5 Description	9
6 Procedures	9
6.1 Provision and withdrawal	9
6.2 Normal procedures	10
6.2.1 Activation, deactivation and registration	10
6.2.2 Erasure	10
6.2.3 Invocation and operation	10
6.2.3.1 Served user's view	10
6.2.3.2 Deflected-to user's view	11
6.2.3.3 Calling user's view	11
6.2.4 Interrogation	13
6.3 Exceptional procedures	13
6.3.1 Activation, deactivation and registration	13
6.3.2 Erasure	13
6.3.3 Invocation and operation	13
6.3.4 Interrogation	14
7 Intercommunication considerations	14
7.1 Interworking with non-ISDNs	14
7.2 Interworking with private ISDNs	15
8 Interaction with other supplementary services	15
8.1 Advice of charge services	15
8.1.1 Charging information at call set-up time	15
8.1.2 Charging information during the call	15
8.1.3 Charging information at the end of the call	16
8.2 Call waiting	16
8.3 Call hold	16
8.4 Explicit call transfer	16
8.5 Number identification services	16
8.5.1 Calling line identification presentation	16
8.5.2 Calling line identification restriction	16
8.5.3 Connected line identification presentation	17
8.5.4 Connected line identification restriction	17
8.6 Closed user group	17
8.7 Completion of calls to busy subscriber	17
8.8 Conference services	18
8.8.1 Conference call, add on	18
8.8.2 Meet-me conference	18
8.9 Direct dialling in	18
8.10 Diversion services	18
8.10.1 Call forwarding unconditional	18
8.10.2 Call forwarding busy	18
8.10.3 Call forwarding no reply	18
8.10.4 Call deflection	18

8.11	Freephone	19
8.12	Malicious call identification	19
8.13	Multiple subscriber number	19
8.14	Subaddressing	19
8.15	Terminal portability	19
8.16	Three party service.....	19
8.17	User-to-user signalling	20
8.17.1	Request for the CD supplementary service in response to the offered call..	20
8.17.2	Request for the CD supplementary service during the period that the user is being informed of the incoming call	20
8.17.3	After deflection.....	21
Annex A (informative):	Interaction between user-to-user signalling and CD (after alerting)	22
History		23

Foreword

This European Telecommunication Standard (ETS) has been produced by the Network Aspects (NA) Technical Committee of the European Telecommunications Standards Institute (ETSI).

In accordance with CCITT Recommendation I.130 [1], the following three level structure is used to describe the supplementary telecommunications services as provided by European public telecommunications operators under the pan-European Integrated Services Digital Network (ISDN):

- Stage 1: is an overall service description, from the user's standpoint;
- Stage 2: identifies the functional capabilities and information flows needed to support the service described in stage 1; and
- Stage 3: defines the signalling system protocols and switching functions needed to implement the service described in stage 1.

This ETS details the stage 1 aspects (overall service description) for the Call Deflection (CD) supplementary service. The stage 2 and stage 3 aspects are detailed in ETS 300 206 (1994) and ETS 300 207 (1994), respectively.

Proposed transposition dates	
Date of latest announcement of this ETS (doa):	31 March 1995
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 September 1995
Date of withdrawal of any conflicting National Standard (dow):	30 September 1995

Blank page

1 Scope

This standard defines the stage one of the Call Deflection (CD) supplementary service for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators. Stage one is an overall service description from the user's point of view (see CCITT Recommendation I.130 [1]), but does not deal with the details of the human interface itself.

This standard defines the interworking requirements of private ISDNs with the public ISDN.

In addition this standard specifies the base functionality where the service is provided to the user via a private ISDN.

This standard does not specify the additional requirements where the service is provided to the user via a telecommunications network that is not an ISDN but does include interworking requirements of other networks with the public ISDN.

Interactions with supplementary services not listed in clause 8 are outside the scope of this standard.

Charging principles are outside the scope of this standard.

The CD supplementary service enables the served user to respond to an incoming call by requesting redirection of that call to another user. The CD supplementary service can only be invoked before the connection is established by the served user, i.e. in response to the offered call, or during the period that the served user is being informed of the call. The served user's ability to originate calls is unaffected by the CD supplementary service.

The CD supplementary service is applicable to all circuit-switched telecommunication services.

This standard is applicable to the stage two and stage three standards for the ISDN CD supplementary service. The terms "stage two" and "stage three" are also defined in CCITT Recommendation I.130 [1]. Where the text indicates the status of a requirement (i.e. as strict command or prohibition, as authorization leaving freedom, or as a capability or possibility), this shall be reflected in the text of the relevant stage two and stage three standards.

Furthermore, conformance to this standard is met by conforming to the stage three standards with the field of application appropriate to the equipment being implemented. Therefore, no method of testing is provided for this standard.

2 Normative references

This standard incorporates by dated or 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 standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] CCITT Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [2] CCITT Recommendation I.112 (1988): "Vocabulary of terms for ISDNs".
- [3] CCITT Recommendation I.210 (1988): "Principles of telecommunication services supported by an ISDN and the means to describe them".
- [4] CCITT Recommendation E.164 (1991): "Numbering plan for the ISDN era".
- [5] CCITT Recommendation Q.9 (1988): "Vocabulary of switching and signalling terms".

3 Definitions

For the purposes of this standard, the following definitions apply:

Integrated Services Digital Network (ISDN): See CCITT Recommendation I.112 [2], § 2.3, definition 308.

(basic) service; telecommunications service: See CCITT Recommendation I.112 [2], § 2.2, definition 201.

served user: The user to whom the CD supplementary service is provided.

user A: The calling user in a call which is subject to diversion.

user B: The served user when a call (from user A) is subject to the CD supplementary service.

NOTE: In the context of multiple diversions, a suffix is used, e.g. 1, 2, ... n, n+1, ... m, to denote the successive diverting users. For example, user B3 is also the diverted-to user with respect to the diversion applied at user B2.

user C: The forwarded-to user in a call which is subject to the CD supplementary service. In the case of a call which is subject to multiple diversions, user C is the deflected-to user with respect to the final call deflection.

deflected-to user: A user to whom the call is redirected as a result of the CD supplementary service.

diverted-to user: A user to whom a call is redirected as a result of diversion.

supplementary service: See CCITT Recommendation I.210 [3], paragraph 2.4.

ISDN number: A number conforming to the numbering plan and structure specified in CCITT Recommendation E.164 [4].

basic access: See CCITT Recommendation Q.9 [5], § 1, definition 1551.

primary rate access: See CCITT Recommendation Q.9 [5], § 1, definition 1552.

address: See CCITT Recommendation E.164 [4], § 12.

subaddress: See CCITT Recommendation E.164 [4], § 12.2.

(call) forwarding: A general term applied to any functionality whereby a call is redirected automatically by the service provider to another user. The forms of forwarding are: unconditional, whereby all calls are redirected; busy, whereby calls encountering busy are redirected; and, no reply, whereby calls which are not answered within a time period are redirected.

diversion: A general term which includes all forms of forwarding, and includes deflection whereby calls are redirected by the user instead of being answered.

basic call procedures: The procedures by which a call (as an instance of a basic telecommunication service) is established and terminated.

diverting user: A user for whom the call is subjected to diversion.

multipoint access: See CCITT Recommendation I.112 [2], definition 422.

4 Symbols and abbreviations

CD	Call Deflection
ISDN	Integrated Services Digital Network
PSTN	Public Switched Telephone Network

5 Description

The CD supplementary service shall be available to users who are connected to the network via a basic access or a primary rate access.

The CD supplementary service enables the served user to respond to an incoming call by requesting redirection of that call to another user. The CD supplementary service can only be invoked before the connection is established by the served user, i.e. in response to the offered call, or during the period that the served user is being informed of the call. The served user's ability to originate calls is unaffected by the CD supplementary service.

The maximum number of diversions permitted for each call is a service provider option with an upper limit of five diversions. When counting the number of diversions, all types of diversion are included.

6 Procedures

6.1 Provision and withdrawal

The CD supplementary service shall be provided after prior arrangement with the service provider.

The CD supplementary service shall apply to all of the basic services subscribed to by the user.

As a service provider option, the CD supplementary service can be provided on a per ISDN number basis, or the CD supplementary service can apply to the whole access. If a service provider offers both of these options, then it shall be a subscription option to choose which of these options applies.

As a service provider option, the CD supplementary service can be offered with one or both of two subscription options. If the CD supplementary service is provided on a per ISDN number basis, then these options can apply separately to each ISDN number. For each subscription option, only one value can be selected. Subscription options are summarized in table 1.

Table 1

Subscription options	Value
Calling user receives notification that the call has been deflected	- no
	- yes, without the ISDN number of the deflected-to user
	- yes, with the ISDN number of the deflected-to user
The served user's ISDN number can be presented to the deflected-to user	- no
	- yes

The CD supplementary service shall be withdrawn by the service provider upon request of the subscriber or for service provider reasons.

6.2 Normal procedures

6.2.1 Activation, deactivation and registration

The CD supplementary service shall be activated on provision and deactivated on withdrawal.

The CD supplementary service requires no registration.

6.2.2 Erasure

Not applicable.

6.2.3 Invocation and operation

The maximum number of diversions for each call shall be limited. The maximum number of diversions is a service provider option with an upper limit of five diversions for each call. When counting the number of diversions, all types of diversions shall be included.

6.2.3.1 Served user's view

The call shall be offered to the served user by means of basic call procedures.

The CD supplementary service can be invoked on a call prior to the connection being established for the call i.e. in response to the offered call, or during the period that the served user is being informed of the call.

NOTE 1: This functionality may be performed at any time after the indication of the arrival of an incoming call by means of an automatic mechanism programmed into the user's equipment, or it may be performed by the user in person after the user has been informed of the incoming call.

The request to invoke the CD supplementary service shall contain the ISDN number of the deflected-to user, accompanied by a subaddress if required for additional identification of the deflected-to user.

The served user can also include an indication that the served user's ISDN number can, or cannot, be presented to the deflected-to user. As a service provider option, if this indication is included in the request for the CD supplementary service then, for this call, it shall override the value of the corresponding subscription option given in table 1. If the service provider does not support this option and the indication is included, it shall be ignored.

On a multipoint access, the acceptance of a request for the CD supplementary service from a particular terminal shall be dependent on the reaction of other terminals to the same call. Two cases can be distinguished:

- a terminal requests the CD supplementary service immediately in response to a call request from the network. In this case, the network shall process the request providing that the connection has not already been established and no other terminal has already indicated that the user is being informed of the call;

NOTE 2: It is the served user's responsibility to avoid contention.

NOTE 3: During an interim period some networks may give priority to responses from other terminals, i.e. the request for the CD supplementary service will not be processed if, as part of basic call procedures, another terminal responds by establishing the connection or indicating that the user is being informed of the call.

- the CD supplementary service is requested whilst the user is being informed of the call. In this case, the network shall process the request providing that no other terminal has already established the connection and the call has not been terminated in the meantime.

If a request to invoke the CD supplementary service is received whilst another request is being processed, then this subsequent request shall be rejected.

If the request to invoke the CD supplementary service can be accepted, then the CD supplementary service shall be invoked. The network shall set up a call to the deflected-to user indicated by the served user. According to a network option, one of the following shall occur:

- a) the served user shall be informed that the CD supplementary service is being invoked. The call to the served user shall be retained until the network receives an indication that the deflected-to user is being informed of the call, or that the connection is established at the deflected-to user, whereupon the call shall be removed from the served user. If, on a multipoint access, another terminal requests the establishment of the connection prior to the removal of the call, then the connection shall be established and the deflection ceased; or
- b) the call shall be removed from the served user when the CD supplementary service is invoked and the served user shall be informed that the call has been removed due to the CD supplementary service.

6.2.3.2 Deflected-to user's view

The deflected-to user shall receive an indication that the CD supplementary service has been invoked on the call. Depending on the value of one of the served user's subscription options, possibly overridden by an indication in the request for the CD supplementary service, the deflected-to user can also receive the ISDN number of the served user.

If multiple diversions have occurred, then the deflected-to user can also be given the originally called user's ISDN number provided that the presentation has been permitted by the diversion service invoked for the originally called user. When multiple diversions occur the reason for diversion given to the diverted-to user shall indicate the last type of diversion (i.e. the invocation of the CD supplementary service).

6.2.3.3 Calling user's view

Depending on the value of the served user's subscription option "calling user receives notification that the call has been deflected", user A can be given an indication that the call is being deflected. In that case, this information shall be given when the network originates the call to the deflected-to user. Depending on the value of this subscription option, user A can also be given the ISDN number of the deflected-to user.

When calls are diverted once, i.e. due to a single invocation of the CD supplementary service, the following information shall be given to user A based on the value of the served user's subscription option "calling user receives notification that the call has been deflected":

- if the value of the subscription option is "no", then no information shall be sent to user A;
- if the value of the subscription option is "yes, without the ISDN number of the deflected-to user", then an indication that the call is being deflected shall be sent to user A. The ISDN number of the deflected-to user shall not be sent; and

- if the value of the subscription option is "yes, with the ISDN number of the deflected-to user", then an indication that the call is being deflected shall be sent to user A. In addition, the ISDN number of the deflected-to user shall be given to user A:
 - after alerting at the deflected-to user, if there is no possibility of the presentation of the ISDN number being restricted by the deflected-to user (i.e. the deflected-to user does not subscribe to the connected line identification restriction supplementary service); or
 - when the connection has been established if the deflected-to user confirms that the presentation of the ISDN number is not restricted (see subclause 8.5.4).

NOTE: In the remaining part of this subclause, the terms "forwarded" and "forwarded-to" should be taken to include all types of diversion, i.e. it includes call deflection.

When calls are forwarded due to multiple diversions, the following information shall be given to user A based on the value of the subscription option "calling user receives notification that the call has been forwarded" for each of the served users:

- if the value of user B1's subscription option is "no", then no information shall be sent to user A;
- if the value of user B1's subscription option is "yes, without the ISDN number of the forwarded-to user", then an indication that the call is being forwarded shall be sent to user A.

If diversion subsequently occurs at user B_n after alerting has commenced (e.g. invocation of the call forwarding no reply supplementary service), then user A shall be informed only if neither user B_n, nor any preceding user, has "no" as the value of the subscription option.

In either case, the ISDN number of the forwarded-to user shall not be sent;

- if the value of user B1's subscription option is "yes, with the ISDN number of the forwarded-to user", then an indication that the call is being forwarded shall be sent to user A.

In addition, if the value of the subscription option for all users (user B1 to user B_n) is "yes, with the ISDN number of the forwarded-to user", the ISDN number of the forwarded-to user shall be given to user A:

- after alerting at the forwarded-to user, if there is no possibility of the presentation of the ISDN number being restricted by the forwarded-to user (i.e. the forwarded-to user does not subscribe to the connected line identification restriction supplementary service); or
- when the connection has been established if the forwarded-to user confirms that the presentation of the ISDN number is not restricted (see subclause 8.5.4).

If diversion subsequently occurs at user B_n after alerting has commenced (e.g. invocation of the call forwarding no reply supplementary service), then user A shall be informed only if neither user B_n, nor any preceding user, has "no" as the value of the subscription option.

Again, if the value of the subscription option for all users (user B1 to user Bn and user Bn+1 to user Bm) is "yes, with the ISDN number of the forwarded-to user", the ISDN number of the forwarded-to user shall be given to user A:

- after alerting at the forwarded-to user, if there is no possibility of the presentation of the ISDN number being restricted by the forwarded-to user (i.e. the forwarded-to user does not subscribe to the connected line identification restriction supplementary service); or
- when the connection has been established if the forwarded-to user confirms that the presentation of the ISDN number is not restricted (see subclause 8.5.4).

6.2.4 Interrogation

Not applicable.

6.3 Exceptional procedures

6.3.1 Activation, deactivation and registration

Not applicable.

6.3.2 Erasure

Not applicable.

6.3.3 Invocation and operation

In cases where a user would normally receive a user's ISDN number as part of notification (e.g. the ISDN number of the deflected-to user, or the ISDN number of the last diverting user), and the ISDN number cannot be given to the user (e.g. due to number presentation restriction, or number not available), the user who would have been given the ISDN number shall receive an indication of the reason why no ISDN number is given.

If the user requests the CD supplementary service and the service provider cannot comply with the request, the CD supplementary service shall not be invoked, and the service provider shall reject the request and give the reason for rejection. The call shall continue at the served user.

If the request for the CD supplementary service is accepted, but the call to the deflected-to user cannot be completed, then the deflected part of the call shall be terminated (if this has not already occurred). One of the following shall occur:

- on networks which support option a) in subclause 6.2.3, the call shall continue at the served user; or
- on networks which support option b) in subclause 6.2.3, then if neither the CD supplementary service nor the call forwarding no reply supplementary service had been invoked previously on the call, then the call shall be terminated using basic call procedures.

If either of the CD supplementary service or the call forwarding no reply supplementary service had previously been invoked, then the call shall be terminated back to that diverting user. The procedures of the CD supplementary service or the call forwarding no reply supplementary service, at that user, shall then apply, as appropriate.

Possible reasons for rejecting the request for the CD supplementary service and/or reasons why the call to the deflected-to user cannot be completed are:

- the CD supplementary service is not subscribed to;
- the deflected-to number is an invalid ISDN number;
- the CD supplementary service is already being processed;
- insufficient information provided by the user;
- deflected-to number is a special service number (see note);
- deflected-to number is served user's number (the use of this is a service provider option);
- the connection has already been established by the user;
- the limit on the number of diversions has already been reached;
- supplementary service incompatibility.

NOTE: Service providers may prevent a served user from invoking the CD supplementary service when the ISDN number specified for the deflected-to user has special significance, e.g. emergency services, operator services. The identification of such numbers is outside the scope of this standard.

6.3.4 Interrogation

Not applicable.

7 Intercommunication considerations

NOTE 1: In the case of diversion within an ISDN, or across more than one ISDN, e.g. ISDNs in different countries or continents, or when interworking between an ISDN and a PSTN occurs, a decrease in quality of service parameters may arise. A network may provide some precautions to prevent this situation occurring, e.g. restrict the propagation delay, or limit the number of satellite hops.

NOTE 2: In interworking situations when information is passed to other networks which do not support the requirements of this standard, information could be discarded.

7.1 Interworking with non-ISDNs

User A and/or the deflected-to user can belong to a non-ISDN.

NOTE 1: The number of times a call will be diverted once it has exited the ISDN cannot be limited by the ISDN.

NOTE 2: Once a call has been deflected to a non-ISDN, then any further diversion and/or indications to the calling user are outside the scope of this standard.

NOTE 3: Indications to the calling user attached to a non-ISDN are outside the scope of this standard.

7.2 Interworking with private ISDNs

The CD supplementary service can be provided to private ISDNs.

NOTE 1: In some networks, this may be restricted to the provision of the CD supplementary service for the whole access.

When a remote user (i.e. a calling user or a deflected-to user) is on a network different from that of the served user (e.g. one user is on a private ISDN and the other user on a public ISDN), indications to the remote user shall be sent to the remote user's network for forwarding to the remote user. Numbers included in this notification shall be provided in the form of national or international ISDN numbers.

If the private ISDN detects deflection back to a destination in the public ISDN, the private ISDN can request that deflection is performed by the public ISDN assuming that the public ISDN offers this functionality. When the private ISDN requests the public ISDN to perform the deflection, the private ISDN shall be informed of any invocation failure.

NOTE 2: In the case of invocation failure, subsequent actions performed by the private ISDN are outside the scope of this standard.

In all cases, the limit on the total number of diversions (see subclause 6.2.3) shall continue to apply when calls are deflected from a private ISDN to a public ISDN, or deflected from a public ISDN to a private ISDN.

8 Interaction with other supplementary services

8.1 Advice of charge services

8.1.1 Charging information at call set-up time

Original calling user:

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

Deflecting user:

Not applicable.

8.1.2 Charging information during the call

Original calling user:

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

Deflecting user:

Not applicable.

8.1.3 Charging information at the end of the call

Original calling user:

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

Deflecting user:

When a call is deflected and the deflecting user is charged for the deflected part of the call, then as a network option, the charging information can be transferred to the deflecting user when the call is terminated, provided that the served user has subscribed to the advice of charge: charging information at the end of the call supplementary service with the value of the subscription option set to "for all calls automatically".

8.2 Call waiting

Calling user:

When receiving the call waiting indication, user B can invoke the CD supplementary service.

A deflected call can invoke the call waiting supplementary service.

8.3 Call hold

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.4 Explicit call transfer

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

NOTE: Where a service provider supports the option to transfer a call for which the connection has been established, to a user to which the connection has not yet been established, the transferred call can be deflected if this second user invokes the CD supplementary service.

8.5 Number identification services

8.5.1 Calling line identification presentation

When a call has been deflected and the deflected-to user has been provided with the calling line identification presentation supplementary service, the deflected-to user shall receive the number of the original calling user, if this calling user has not subscribed to or invoked the calling line identification restriction supplementary service.

8.5.2 Calling line identification restriction

When the calling line identification restriction supplementary service has been invoked, the calling user's ISDN number shall not be presented to the deflected-to user unless the deflected-to user has an override capability.

8.5.3 Connected line identification presentation

If the served (deflecting) user selects the option that the calling user is not notified of call deflection, then the calling user shall receive no deflecting notification. In addition, the calling user shall not receive the connected user's identity when the call is answered, unless the calling user has an override capability.

If the served (deflecting) user selects the option that the calling user is notified, but without the deflected-to number, then the calling user shall not receive the connected user's identity when the call is answered, unless the calling user has an override capability.

8.5.4 Connected line identification restriction

If a deflected-to user subscribes to the connected line identification restriction supplementary service "permanent mode", then the deflected-to user's number shall not be provided with the notification that the call has been diverted.

If a deflected-to user subscribes to the connected line identification restriction supplementary service "temporary mode", then the deflected-to user's number shall not be provided until negotiation with the user has taken place and a positive indication from the user has been received (i.e. the default value shall not be used).

NOTE: The deflected-to user's number can still be released on answer, after confirmation, or using the default.

In each of the above situations, a calling user that subscribes to the connected line identification presentation supplementary service and who has override capability will not receive the deflected-to user's number as part of the diverting notification information, but can use the override capability in order to receive the connected line identity when the call is answered.

8.6 Closed user group

NOTE: Closed user group restrictions were checked and met for the call between the calling user and the deflecting user when call was offered to the deflecting user.

The parameters of the closed user group applied by the network on the original call shall be used for the deflected part of the call and by this means closed user group restrictions shall be checked and met for the call between the calling user and the deflected-to user.

The outgoing call barring attribute of the deflecting user's closed user group supplementary service shall not be used to determine if the call can be deflected.

8.7 Completion of calls to busy subscriber

NOTE: A recall resulting from the completion of calls to busy subscribers supplementary service will not be deflected.

Calling user:

If a call to the called user (served user) is deflected to another user by the CD supplementary service and this other user is busy, then a request by the calling user to activate the completion of calls to busy subscriber supplementary service shall be applied to the called user.

Called user:

If the called user (served user) requests invocation of the CD supplementary service on a call resulting from the completion of calls to busy subscribers supplementary service, then the following actions shall result:

- if the request was made prior to the network receiving an indication that the user is being informed of the call, then the request shall be rejected; or
- if the request was made after the network has received an indication that the user is being informed of the call, then the request shall be accepted. The call shall be deflected as a normal call.

8.8 Conference services

8.8.1 Conference call, add on

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.8.2 Meet-me conference

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.9 Direct dialling in

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.10 Diversion services

8.10.1 Call forwarding unconditional

Invocation of the call forwarding unconditional supplementary service shall take precedence over the CD supplementary service.

8.10.2 Call forwarding busy

If the user is not network determined user busy, then the CD supplementary service or the call forwarding busy supplementary service can be invoked, depending on the response from the served user.

8.10.3 Call forwarding no reply

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

NOTE: If the network indicates the arrival of an incoming call to the user, then the CD supplementary service, or the call forwarding no reply supplementary service can be invoked, depending on the response, or lack of response, from the served user.

8.10.4 Call deflection

Not applicable.

8.11 Freephone

Forwarding to a freephone number

The number of diversions of the call should not be lost after having been subjected to the freephone supplementary service.

Forwarding of a freephone call

According to a service provider option, calls which are subject to the freephone supplementary service, i.e. "freephone calls", can be handled in one of the following ways:

- freephone calls which are allocated to a user shall override the CD supplementary service and shall not be deflected; or
- freephone calls which are allocated to a user can be subject to the CD supplementary service. If a freephone call is deflected, the calling user shall not receive the ISDN number of the deflected-to user.

8.12 Malicious call identification

The malicious call identification supplementary service can be invoked for a deflected call. In addition to the normal operation of the malicious call identification supplementary service, the identity of the first diverting user shall be registered and, as a network option, the last diverting user can be registered.

Once deflection has taken place, the deflecting user cannot invoke the malicious call identification supplementary service.

The malicious call identification supplementary service shall not be automatically invoked when a call is terminated due to the invocation of the CD supplementary service.

8.13 Multiple subscriber number

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.14 Subaddressing

The subaddress associated with the original called party number is delivered to the original called party and shall not be forwarded if the call is deflected.

8.15 Terminal portability

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.16 Three party service

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.17 User-to-user signalling

Annex A gives an overview of the interaction between the user-to-user signalling supplementary service and the CD (after alerting) supplementary service.

NOTE: As a service provider option, the forwarding of user-to-user information, or requests for the user-to-user signalling supplementary service may be restricted to forwarding users who subscribe to the relevant parts of the user-to-user signalling supplementary service.

8.17.1 Request for the CD supplementary service in response to the offered call

Any user-to-user information or request for the user-to-user signalling supplementary service shall be deflected with the call.

8.17.2 Request for the CD supplementary service during the period that the user is being informed of the incoming call

NOTE 1: As a service provider option, the forwarding of user-to-user information, or requests for the user-to-user signalling supplementary service may be restricted to deflecting users who subscribe to the relevant parts of the user-to-user signalling supplementary service.

User-to-user signalling service 1:

If the calling user requests implicitly service 1, then the CD supplementary service can be invoked. The request for service 1 shall be deflected with the call.

If the calling user requests service 1 and indicates that it is required for the call to proceed, then the CD supplementary service shall be rejected and the call shall not be deflected.

If the calling user requests service 1 and indicates that it is not required on the call, then:

- if the called user has explicitly accepted the request, then as a service provider option:
 - the request for the CD supplementary service will be rejected and the call shall not be deflected; or
 - the request for the CD supplementary service can be accepted. In this case the call shall be deflected and the request for service 1, together with any user-to-user information, shall be deflected with the call.

NOTE 2: In this case, the indication that the deflected-to user is being informed of the call will not be sent to the calling user and any user-to-user information included in this indication will be discarded.

NOTE 3: Also in this case, if the deflected-to user rejects the request for service 1 when the connection is established, then this rejection may be given to the calling user.

- if the called user has rejected, or has ignored, the request, the CD supplementary service can be invoked. The call shall be deflected without the request for service 1.

User-to-user signalling service 2:

If the calling user requests service 2 and indicates that it is required for the call to proceed, then the CD supplementary service shall be overridden and the call shall not be deflected.

If the calling user requests service 2 and indicates that it is not required on the call, then:

- if the called user accepts the request for service 2, the request for the CD supplementary service shall be rejected and the call shall not be deflected;
- if the called user rejects or ignores the request for service 2, the CD supplementary service can be invoked and the call shall be deflected without the request for service 2.

If the calling user requests service 2 and indicates that it is not required on the call, then the CD supplementary service can be invoked. The call shall be deflected without the request for service 2.

NOTE 4: In this case, if the calling user sends user-to-user information after the call has been deflected, then this information will be discarded.

User-to-user signalling service 3:

If the calling user requests service 3 when originating the call, then the CD supplementary service can be invoked. The request for service 3 shall be deflected with the call.

8.17.3 After deflection

After deflection, the user-to-user signalling service can be requested after the communication has been established.

Annex A (informative): Interaction between user-to-user signalling and CD (after alerting)

Table A.1: Interaction between user-to-user signalling and CD (after alerting)

Calling user		Deflecting user		
UUS service	Type of request	User-to-user signalling request and/or user-to-user information given to deflecting user	Call is deflected	User-to-user signalling request and/or user-to-user information deflected
1-A	Implicit	Yes	Yes	Yes
1-C	Explicit, required	Yes (acceptance) Yes (no response) Yes (rejection)	No No Not applicable (rejection)	Not applicable Not applicable Not applicable
1-B	Explicit, not required	Yes (acceptance) Yes (no response) Yes (rejection)	(NOTE) Yes Yes	(NOTE) No No
2-B	Explicit, required	Yes (acceptance) Yes (rejection)	No (maintain) Not applicable (rejection)	No Not applicable
2-A	Explicit, not required	Yes (acceptance) Yes (no response) Yes (rejection)	No Yes Yes	Not applicable No No
3-B	Explicit, required requested in call set-up	Yes	Yes	Yes
3-A	Explicit, not required requested in call set-up	Yes	Yes	Yes
3-C	Explicit, not required requested while the call is established	No impact	No impact	No impact
<p>NOTE: As a service provider option:</p> <ul style="list-style-type: none"> - the request for the CD supplementary service will be rejected and the call will not be deflected; or - the request for the CD supplementary service can be accepted. In this case, the call will be deflected and the request for service 1, together with any user-to-user information, will be deflected with the call. 				

History

Document history	
December 1994	First Edition
February 1996	Converted into Adobe Acrobat Portable Document Format (PDF)