



SLOVENSKI STANDARD

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**Digitalno omrežje z integriranimi storitvami (ISDN) - Dopolnilna storitev:
nedvoumna predaja klica (ECT) - Funkcijske zmožnosti in informacijski tokovi**

Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Functional capabilities and information flows

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Integrated Services Digital
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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Signalling Protocols and Switching (SPS).

In accordance with CCITT Recommendation I.130, the following three level structure is used to describe the supplementary telecommunication 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.

The present document details the stage 2 aspects (functional capabilities and information flows) needed to support the Explicit Call Transfer (ECT) supplementary service. The stage 1 and stage 3 aspects are detailed in EN 300 367 [6] and EN 300 369-1 [7], respectively.

National transposition dates

Date of adoption of this EN:	11 December 1998
Date of latest announcement of this EN (doa):	31 March 1999
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 September 1999
Date of withdrawal of any conflicting National Standard (dow):	30 September 1999

1 Scope

The present document defines the stage two description of the Explicit Call Transfer (ECT) supplementary service for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators. Stage two identifies the functional capabilities and the information flows needed to support the service description as described in stage one. The stage two description also identifies user operations not directly associated with a call (see CCITT Recommendation 1.130 [2]).

The present document is specified according to the methodology specified in CCITT Recommendation Q.65 [3].

The present document does not formally describe the relationship between this supplementary service and the basic call, but where possible this information is included for guidance.

In addition the present document does not specify the requirements where the service is provided to the user via a private ISDN. The present document does not specify the requirements for the allocation of defined Functional Entities (FEs) within a private ISDN; it does, however, define which functional entities may be allocated to a private ISDN.

The present document does not specify the additional requirements where the service is provided to the user via a telecommunications network that is not an ISDN.

The ECT supplementary service enables a user who has two calls, each of which can be an incoming or an outgoing call, to connect the other users in the two calls.

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

The present document is applicable to the stage three standards for the ISDN ECT supplementary service. The term "stage three" is also defined in CCITT Recommendation 1.130 [2]. Where the text indicates the status of a requirement, i.e. as strict command or prohibition, as authorization leaving freedom, as a capability or possibility, this shall be reflected in the text of the relevant stage two and stage three standards.

Furthermore, conformance to the present document 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 the present document.

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2 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, subsequent revisions do apply.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".
- [2] CCITT Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [3] ITU-T Recommendation Q.65 (06/97): "The unified functional methodology for the characterization of services and network capabilities".
- [4] ITU-T Recommendation Q.71 (03/93): "ISDN Circuit mode switched bearer services".
- [5] CCITT Recommendation Z.100 (1988): "Specification and Description Language (SDL)".

- [6] EN 300 367: "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Service description".
- [7] EN 300 369-1: Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

3 Definitions

For the purposes of the present document, the following definitions apply:

Integrated Services Digital Network (ISDN): See ITU-T Recommendation I.112 [1], definition 308.

primary call: One of user A's (answered) calls.

secondary call: The other user A call (answered or alerting).

service; telecommunication service: See ITU-T Recommendation I.112 [1], definition 201.

transfer by join: The effecting of transfer by joining together the primary and secondary calls at user A's local exchange.

transfer by rerouting: The effecting of transfer by establishing a new connection to replace the primary and secondary calls.

user A: The served user, i.e. the user requesting the ECT supplementary service.

user B: The other user in user A's primary call.

user C: The other user in user A's secondary call.

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4 Abbreviations

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For the purposes of the present document, the following abbreviations apply:

CC	Call Control
CCA	Call Control Agent
ECT	Explicit Call Transfer
FE	Functional Entity
FEA	Functional Entity Action
ISDN	Integrated Services Digital Network
LE	Local Exchange
PTNX	Private Telecommunication Network eXchange
SDL	Specification and Description Language
TE	Terminal Equipment

5 Description

This stage two supports only one variant of the ECT supplementary service, that of transfer by join. The functional model supports interworking with transfer by rerouting, which may occur within a private network but involving users of a public network.

Table 1 shows the states for the invocation of the ECT supplementary service.

Table 1: States for invocation of ECT

Secondary call	Primary call
Active, held	Active, idle
Active, held	Alerting, idle (note)
Active, idle	Alerting, held (note)
Active, idle	Active, idle
Active, idle	Alerting, idle (note)
NOTE:	Only applicable for an outgoing call.

The procedures are currently restricted to basic telecommunication services involving a single 64 kbit/s connection. The present document is not applicable to a video telephony call involving two 64 kbit/s connections.

6 Derivation of the functional model

6.1 Functional model description

The functional model for the ECT supplementary service is shown in figure 1.

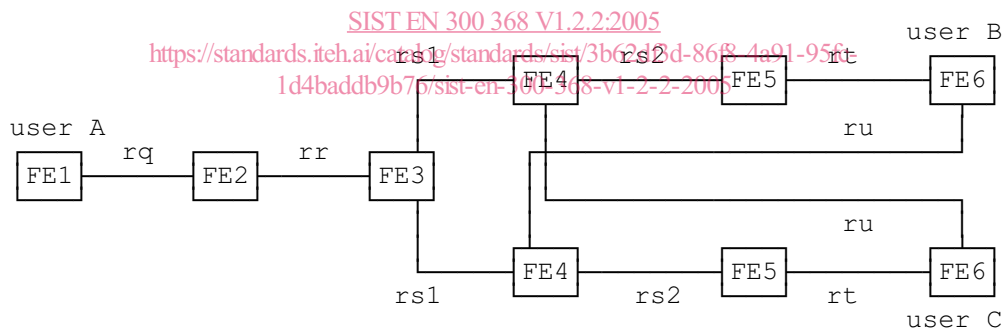


Figure 1: Functional model for the ECT supplementary service

6.2 Description of the FEs

The FEs required by the ECT supplementary service in addition to those of basic call are as follows:

- FE1: Transfer invoke entity;
- FE2: Transfer validate entity;
- FE3: Transfer execute entity;
- FE4: Transfer screen entity;
- FE5: Transfer complete receive entity;
- FE6: Transfer inform receive entity.

6.3 Relationship with a basic service

The relationship with a basic service is as shown in figure 2.

NOTE: The basic call model is defined in CCITT Recommendation Q.71 [4], subclause 2.1, with the exception that r1 represents an outgoing call relationship from a Call Control Agent (CCA) and r3 represents an incoming call relationship to a CCA.

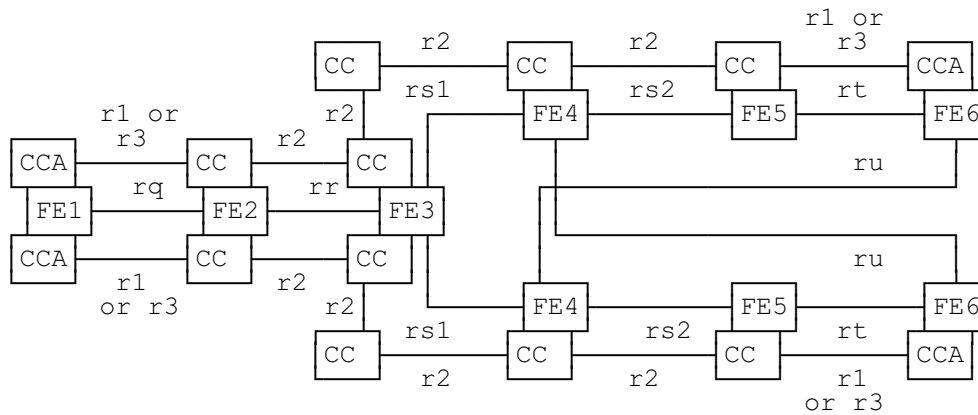


Figure 2: Relationship to basic call

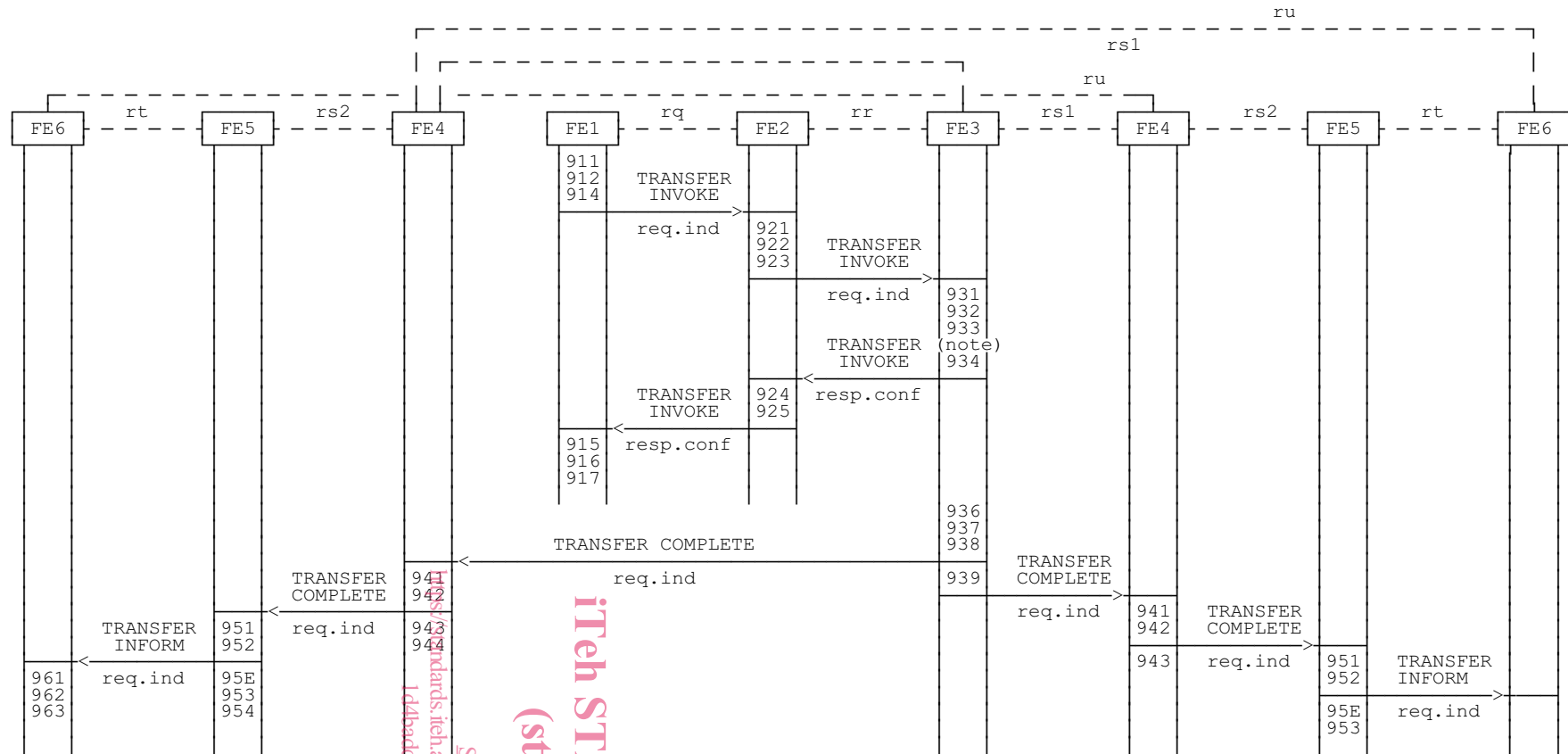
7 Information flows

7.1 Information flow diagrams

The information flow diagrams assume the existence of a primary call and a secondary call and that both calls are maintained until the completion of the transfer. Clearing of the primary and secondary calls with respect to the served user is not shown as this uses basic call information flows only. Similarly any information flows concerned with holding and retrieving the primary and secondary calls are outside the scope of the present document.

The TERMINAL DETAILS information flow may occur between both FE6s. Where there is no information to be sent at all, the information flow is not present in either direction. The information flow is only shown in one direction in figure 3 for reasons of clarity.

The TRANSFER ACTIVE information flow will only occur in the case of an alerting transfer where the alerting user subsequently answers. In such a case, a TERMINAL DETAILS information flow from user B's FE6 may also occur as a result of receiving the second TRANSFER INFORM indication.



NOTE: If the optional procedures for preventing loops are provided, the information flow shown in figure 4 occurs at this point, before proceeding with the rest of the information flow shown in this figure.

Figure 3 (sheet 1 of 2): Successful call transfer

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