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Digitalno omrežje z integriranimi storitvami (ISDN) - Dopolnilna storitev: zaprta skupina uporabnikov (CUG) - Funkcijske zmožnosti in informacijski tokovi

Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Functional capabilities and information flows

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ICS:

33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)
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Foreword

This European Telecommunication Standard (ETS) has been produced by the Signalling Protocols & Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI) and was adopted having passed through the ETSI standards approval procedure.

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 stand-point;
- 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 2 aspects (functional capabilities and information flows) needed to support the Closed User Group (CUG) supplementary service. The stage 1 and stage 3 aspects are detailed in ETS 300 136 (1992) and ETS 300 138 (1992), respectively.

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1 Scope

This standard defines stage two of the Closed User Group (CUG) 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. The stage two description also identifies user operations not directly associated with a call (see CCITT Recommendation I.130 [1]).

This standard is specified according to the methodology specified in CCITT Recommendation Q.65 [2].

This standard 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 this standard does not specify the requirements where the service is provided to the user via a private ISDN. This standard does not specify the requirements for the allocation of defined functional entities within a private ISDN; it does however define which functional entities may be allocated to 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.

The CUG supplementary service enables users to form groups to and from which access is restricted. A specific user may be a member of one or more closed user groups. Members of a specific closed user group can communicate among themselves but not, in general, with users outside the group.

The CUG supplementary service is applicable to all telecommunication services.

This standard is applicable to the stage three standards for the ISDN CUG supplementary service. The term "stage three" is 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 authorisation leaving freedom, or as a capability or possibility) this shall be reflected in the text of the relevant 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 ETS 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 characterisation of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [2] CCITT Recommendation Q.65 (1988): "Stage 2 of the method for the characterisation of services supported by an ISDN".
- [3] CCITT Recommendation I.112 (1988): "Vocabulary of terms for ISDNs".
- [4] CCITT Recommendation Q.71 (1988): "ISDN 64 kbit/s circuit mode switched bearer services".
- [5] ETS 300 136 (1992): "Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Service description".

- [6] CCITT Recommendation Q.85 (1988): "Community of interest supplementary services".
- [7] CCITT Recommendation I.210 (1988): "Principles of telecommunication services supported by an ISDN and the means to describe them".

3 Definitions

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

Closed user group (CUG) index: see ETS 300 136 [5], Clause 3.

Closed user group call: see ETS 300 136 [5], Clause 3.

Closed user group interwork code: is a code to uniquely identify the closed user group inside the network.

Closed user group with incoming access: see ETS 300 136 [5], Clause 3.

Closed user group with incoming and outgoing access: see ETS 300 136 [5], Clause 3.

Closed user group with outgoing access: see ETS 300 136 [5], Clause 3.

Closed user group: see ETS 300 136 [5], Clause 3.

CUG-domain: a CUG domain is an area of common CUG interlock codes. The domain internal CUG interlock codes need not be released via the boundary of the domain. A closed user group application may span over several domains. Both domains shall treat the other domain's closed user group as a single member of its own closed user group.

Incoming calls barred within a CUG: see ETS 300 136 [5], Clause 3.

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Integrated Services Digital Network (ISDN): see CCITT Recommendation I.112 [3], § 2.3, definition 308.

Outgoing calls barred within a CUG: see ETS 300 136 [5], Clause 3.

Service; telecommunications service: see CCITT Recommendation I.112 [3], § 2.2, definition 201.

Supplementary service: see CCITT Recommendation I.210 [7], § 2.4.

4 Symbols and abbreviations

CC	Call Control, typically and LE
CCA	Call Control Agent, typically and TE
CUG	Closed User Group
DB	Data Base
DDI	Direct Dialling In
FEA	Functional Entity Actions
IA	Incoming Access
ICB	Incoming Calls Barred

ISDN	Integrated Services Digital Network
LE	Local Exchange
MSN	Multiple Subscriber Numbering
OA	Outgoing Access
OCB	Outgoing Calls Barred
PCUG	Preferential CUG
PTN	Private Telecommunications Network
TE	Terminal Equipment

5 Description

Not applicable.

6 Derivation of the functional model

6.1 Functional model description

The functional model for the CUG supplementary service shall be as shown in figures 1 and 2.

The functional model for the application of the CUG supplementary service within a single CUG domain shall as be shown in figure 1.

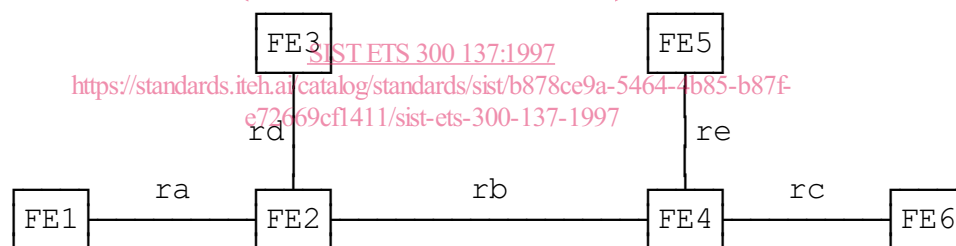


Figure 1

The expanded functional model used for interworking between CUG domains shall be as shown in figure 2.

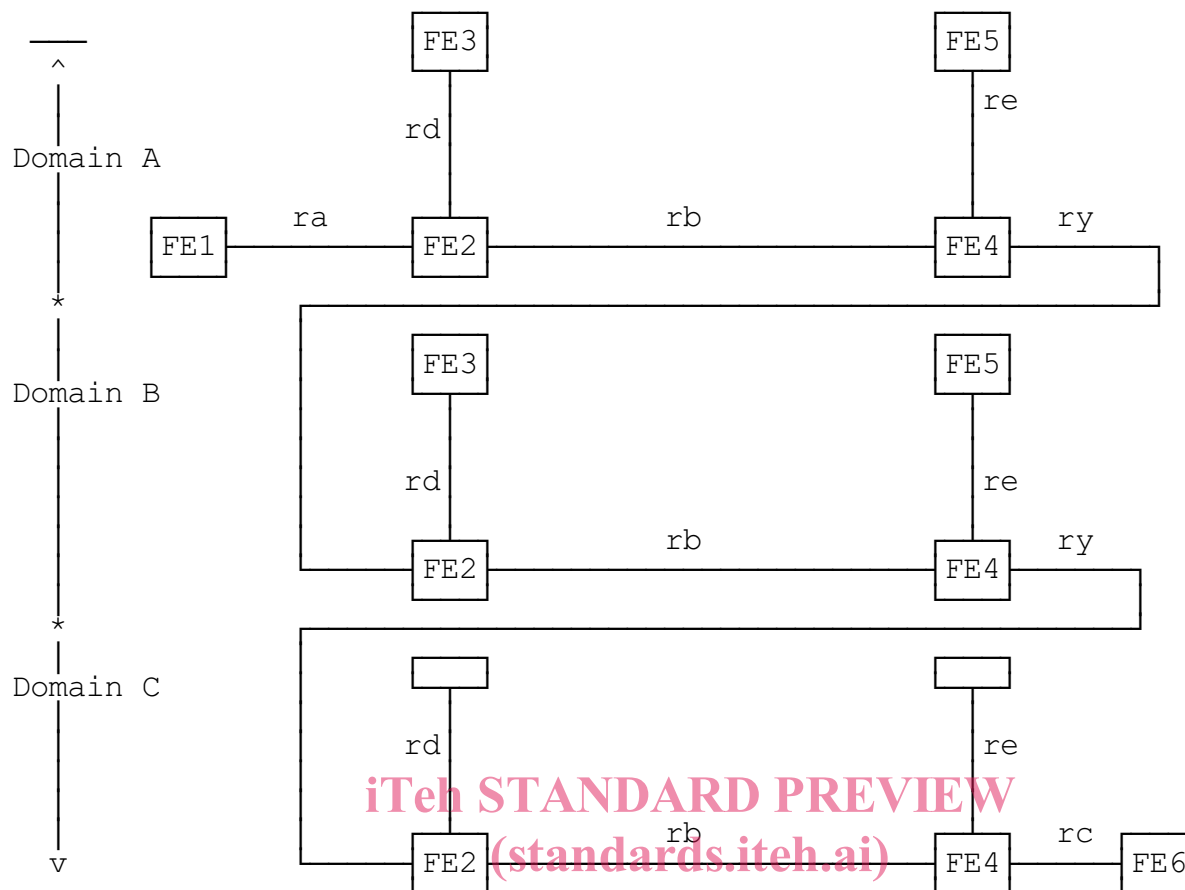


Figure 2

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6.2 Description of the functional entities

The functional entities for the CUG supplementary service shall be:

FE1	originating CUG agent;
FE2	outgoing CUG determination;
FE3	outgoing CUG control;
FE4	incoming CUG determination;
FE5	incoming CUG control;
FE6	destination CUG agent.