SLOVENSKI STANDARD

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Digitalno omrežje z integriranimi storitvami (ISDN) - Dopolnilna storitev: čakajoči klic (CW) - Funkcijske zmožnosti in informacijski tokovi

Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Functional capabilities and information flows

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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).

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 2 aspects (functional capabilities and information flows) needed to support the Call Waiting (CW) supplementary service. The stage 1 and stage 3 aspects are detailed in ETS 300 056 (1991) and ETS 300 058 (1991), respectively.

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1 Scope

This standard defines the stage two of the Call Waiting (CW) 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 stage 1 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, the 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 CW supplementary service permits a user to be informed of an incoming call (as per basic call procedures) with an indication that no interface information channel is available. The user then has the choice of accepting, rejecting or ignoring the waiting call (as per basic call procedures).

The CW supplementary service is considered meaningful when applied to the telephony teleservice and the speech and 3,1 kHz audio bearer services. Furthermore, it may also be applied to other circuit-switched services.

This standard is applicable to the stage three standards for the ISDN CW 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 a strict command or prohibition, as authorisation leaving freedom, as a capability or possibility, this shall be reflected in the text of the relevant 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 ETS 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]   ETS 300 056 (1991): "Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Service description".

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[4]   CCITT Recommendation I.112 (1988): "Vocabulary of terms for ISDNs".

[5]   ETS 300 140 (1992): "Integrated Services Digital Network (ISDN); Call Hold (HOLD) supplementary service; Functional capabilities and information flows".

[6]   CCITT Recommendation Q.71 (1988): "ISDN 64 kbit/s circuit mode switched bearer services".

[7]   CCITT Recommendation I.210 (1988): "Principles of telecommunications services supported by an ISDN and the means used to describe them".

[8]   CCITT Recommendation Z.100 (1988): "Functional Specification and Description Language (SDL)".

3   Definitions

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

Information channel control: a terminal that has information channel control is active on a call, is alerting for an incoming call, has an outgoing call for which a channel has been selected, or has a call on hold with reservation.

Integrated Services Digital Network (ISDN): see CCITT Recommendation I.112 [4], § 2.3, definition 308.

Service; telecommunications service: see CCITT Recommendation I.112 [4], § 2.2, definition 201.

Subscriber B: see ETS 300 056 [3], Clause 3.

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

User A: see ETS 300 056 [3], Clause 3.

User B: see ETS 300 056 [3], Clause 3.

User C: see ETS 300 056 [3], Clause 3.

4   Symbols and abbreviations

CC   Call Control

CCA   Call Control Agent

CW   Call Waiting

FEA   Functional Entity Action

ISDN   Integrated Services Digital Network

LE   Local Exchange

PTNX   Private Telecommunications Network Exchange

SDL   Specification and Description Language

5 Description

Not applicable.

6 Derivation of the functional model

6.1 Functional model description

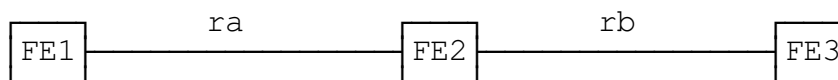The functional model for the CW supplementary service shall be as shown in figure 1.

```
┌─────┐      ra      ┌─────┐      rb      ┌─────┐
│ FE1 │─────────────│ FE2 │─────────────│ FE3 │
└─────┘              └─────┘              └─────┘
```

Figure 1

6.2 Description of the functional entities

The functional entities for the CW supplementary service above those of the basic call shall be as shown below:

FE1: Waiting call notification receiver;

FE2: Waiting call control;

FE3: Waiting call agent.

6.3 Relationship with a basic service

The relationship of the functional model for the CW supplementary service with a basic call (from user C to
user B) shall be as shown in figure 2.

NOTE: The basic call model is defined in CCITT Recommendation Q.71 [5], subclause 2.1, with the exception that r1 represents an outgoing call relationship from a CCA and r3 represents an incoming call relationship to a CCA.
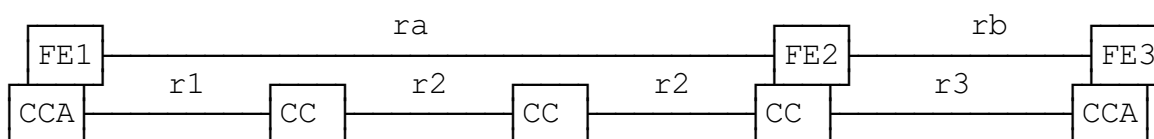
```
┌─────┐                 ra                      ┌─────┐      rb      ┌─────┐
│ FE1 │──────────────────────────────────────│ FE2 │─────────────│ FE3 │
├─────┤    r1    ┌────┐    r2    ┌────┐    r2  ├─────┤    r3       ├─────┤
│ CCA │─────────│ CC │─────────│ CC │─────────│ CC │─────────────│ CCA │
└─────┘          └────┘          └────┘         └─────┘              └─────┘
```

Figure 2