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Zasebno telekomunikacijsko omrežje (PTN) – Specifikacija, funkcijski modeli in informacijski pretoki - Dopolnilna storitev: predaja klica

Private Telecommunication Network (PTN); Specification, functional models and information flows; Call transfer supplementary service [ISO/IEC 13865 (2003) modified]

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Foreword

This European Telecommunication Standard (ETS) has been produced by the European Computer Manufacturers Association (ECMA) on behalf of its members and those of the European Telecommunications Standards Institute (ETSI).

This ETS is one of a series of standards defining services and signalling protocols applicable to Private Telecommunication Networks (PTNs) incorporating one or more interconnected nodes. The series uses the ISDN concepts as developed by CCITT and is also within the framework of standards for open systems interconnection as defined by ISO.

This particular ETS specifies the Call Transfer supplementary service.

The ETS is based upon the practical experience of ECMA member companies and the results of their active and continuous participation in the work of ISO, CCITT, ETSI and other international and national standardisation bodies. It represents a pragmatic and widely based consensus.

The service specified is compatible with the equivalent service specified by CCITT and ETSI for public ISDNs. The CCITT stage 1 specification of this service is to be found in Blue Book Recommendation I.252 (part 1). ETSI specifications for public ISDNs are to be found in draft prETS 300 367 (stage 1) and draft prETS 300 368 (stage 2). Annex A describes the relationship between this ETS and the corresponding ETSs for the public ISDN.

This ETS was produced by ECMA using the ECMA guidelines for the production of standards and using the ECMA stylesheet. In order to avoid undue delays in the voting process for this ETS it has been agreed that this ETS will not be converted to the ETSI stylesheet.

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1 Scope

This ETS specifies Supplementary Service Call Transfer (SS-CT), which is applicable to various basic services supported by Private Telecommunication Networks (PTNs). Basic services are specified in ETS 300 171.

SS-CT is a supplementary service which enables a user to transform two of that user's calls into a new call between the other two users of these two calls.

Service specifications are produced in three stages, according to the method described in ENV 41005. This ETS contains the stage 1 and stage 2 specifications of SS-CT. The stage 1 specification (clause 60) specifies the supplementary service as seen by users of PTNs. The stage 2 specification (clauses 70 and 80) identifies the functional entities involved in the supplementary service and the information flows between them.

This ETS contains two stage 2 specifications reflecting different ways of operating the service within the network: transfer by join and transfer by rerouting.

2 Conformance

In order to conform to this ETS, a stage 3 standard shall specify signalling protocols and equipment behaviour that are capable of being used in a PTN which supports the supplementary service specified in this ETS. This means that, to claim conformance, a stage 3 standard is required to be adequate for the support of those aspects of clause 6 (stage 1) and clauses 70 and 80 (stage 2) which are relevant to the interface or equipment to which the stage 3 standard applies.

The requirement that clause 7 (transfer by join) be supported by a stage 3 standard is in order to provide a basic method of implementing SS-CT. The requirement that clause 80 (transfer by rerouting) be supported by a stage 3 standard is in order to provide an optional method of implementing SS-CT which includes an attempt at rerouting the connection between the two transferred users in order to optimise the use of network resources, with fall-back to transfer by join if rerouting is not possible.

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3 References

ENV 41005	Method for the specification of basic and supplementary services of private telecommunication networks (1989).
ENV 41007	Definition of terms in private telecommunication networks (1989).
ETS 300 171	Private Telecommunication Network (PTN); Specification, functional models and information flows, Control aspects of circuit mode basic services (1992).
ETS 300 173	Private Telecommunication Network (PTN); Specification, functional models and information flows, Identification supplementary services (1992).
ETS 300 237	Private Telecommunication Network (PTN); Specification, functional models and information flows, Name identification supplementary services (1993).
CCITT Recommendation I.112	Vocabulary of terms for ISDNs (1988).
CCITT Recommendation I.210	Principles of telecommunication services supported by an ISDN and the means to describe them (1988).
CCITT Recommendation Z.100	Specification and description language (1988).

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4 Definitions

For the purpose of this ETS the following definitions apply.

4.1 External definitions

This ETS uses the following terms defined in other documents:

- Basic Service (CCITT Recommendation I.210);
- Connection (CCITT Recommendation I.112);
- Private (ENV 41007);
- Private Telecommunication Network Exchange (PTNX) (ENV 41007);
- Public (ENV 41007);
- Public ISDN (ENV 41007);
- Service (CCITT Recommendation I.112);
- Signalling (CCITT Recommendation I.112);
- Supplementary Service (CCITT Recommendation I.210);
- Telecommunication Network (ENV 41007);
- Terminal, Terminal equipment (ENV 41007);
- User (ETS 300 171).

This ETS refers to the following basic call functional entities (FEs) defined in ETS 300 171:

- Call Control (CC);
- Call Control Agent (CCA).

This ETS refers to the following basic call inter-FE relationships defined in ETS 300 171:

- r1;
- r2;
- r3.

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This ETS refers to the following basic call information flows defined in ETS 300 171:

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- Channel_Acknowledge request/indication;
- Release request/indication;
- Release response/confirmation;
- Setup request/indication;
- Setup response/confirmation.

This ETS refers to the following basic call information flow elements defined in ETS 300 171:

- Call History (CH);
- Connected Number (CN);
- Connected Subaddress (CS);
- Destination Category (DC).

This ETS refers to the following Connected Line Identification Presentation information flow elements defined in ETS 300 173:

- Connected Number (CN);
- Connected Subaddress (CS).

4.2 Additional network feature

A capability, over and above that of a basic service, provided by a PTN, but not directly to a PTN user.

4.3 Alerting

The state of the secondary call when the called user is being alerted but has not yet answered.

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4.4 Answered

The state of the primary or secondary call after the called user has answered.

4.5 Call, Basic call

An instance of the use of a basic service.

4.6 Primary call

One of the calls involved in the transfer. In the case of a transfer involving an unanswered call, the primary call is the answered call. In the case where both calls are already answered, the primary call is chosen arbitrarily by the network.

4.7 Secondary call

The other call involved in the transfer.

4.8 Transfer by join

The effecting of transfer by joining together the connections of the primary and secondary calls at user A's PTNX.

4.9 Transfer by rerouting

The effecting of transfer by establishing a new connection to replace all or part of the connections of the primary and secondary calls.

4.10 User A

The served user, i.e. the user requesting Call Transfer.

4.11 User B

The other user in user A's primary call.

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4.12 User C

The other user in user A's secondary call.

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5 List of acronyms

AI	Alerting Indication
CC	Call Control (functional entity)
CCA	Call Control Agent (functional entity)
CH	Call History (information flow element)
CI	Call Identities (information flow element)
CID	Call Identity (information flow element)
CN	Connected Number (information flow element)
CS	Connected Subaddress (information flow element)
CUG	Closed User Group
DC	Destination Category (information flow element)
ED	End Designation (information flow element)
FE	Functional Entity
ISDN	Integrated Services Digital Network
PTNX	Private Telecommunication Network Exchange
RN	Rerouting Number (information flow element)
SDL	Specification and Description Language
SS-CT	Supplementary Service Call Transfer
TE	Terminal Equipment
TIDR	Transfer Identity Result (information flow element)
TINR	Transfer Initiate Result (information flow element)
TIVR	Transfer Invoke Result (information flow element)