



SLOVENSKI STANDARD SIST ETS 300 261 E1:2005

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**Zasebno telekomunikacijsko omrežje (PTN) – Medcentralni signalizacijski protokol
- Dopolnilna storitev: predaja klica**

Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Call transfer supplementary service

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Table of contents

Foreword	7
1 Scope	9
2 Conformance	9
3 References	9
4 Definitions	10
4.1 External definitions	10
4.2 End PTNX	10
4.3 Primary PTNX	10
4.4 Redirection Number	10
4.5 Secondary PTNX	10
4.6 Transferring PTNX	11
5 List of acronyms	11
6 Signalling protocol for the support of SS-CT	11
6.1 SS-CT description	11
6.2 SS-CT operational requirements	11
6.2.1 Provision/Withdrawal	11
6.2.2 Requirements on a Transferring PTNX	11
6.2.3 Requirements on a Primary PTNX	11
6.2.4 Requirements on a Secondary PTNX	11
6.2.5 Requirements on a Transit PTNX	12
6.3 SS-CT coding requirements	12
6.3.1 Operations	12
6.3.2 Information elements	16
6.3.2.1 Facility information element	16
6.3.2.2 Information elements embedded in the Facility information element	16
6.3.2.3 Other information elements	16
6.3.3 Messages	16
6.4 SS-CT state definitions	17
6.4.1 States at a Transferring PTNX	17
6.4.1.1 CT-Idle	17
6.4.1.2 CT-Await-Answer-From-UserC	17
6.4.1.3 CT-Await-Identify-Response	17
6.4.1.4 CT-Await-Initiate-Response	17
6.4.2 States at a Primary PTNX	17
6.4.2.1 CT-Idle	17
6.4.2.2 CT-Await-Setup-Response	17
6.4.2.3 CT-Await-Connect	17
6.4.3 States at a Secondary PTNX	17
6.4.3.1 CT-Idle	17
6.4.3.2 CT-Await-Setup	17
6.5 SS-CT signalling procedures for invocation and operation	17
6.5.1 Actions at a Transferring PTNX	18
6.5.1.1 Normal procedures for transfer by join	18
6.5.1.2 Exceptional procedures for transfer by join	19
6.5.1.3 Normal procedures for transfer by rerouting	19

6.5.1.4	Exceptional procedures for transfer by rerouting	19
6.5.2	Actions at a Primary PTNX	20
6.5.2.1	Normal procedures for transfer by join	20
6.5.2.2	Exceptional procedures for transfer by join	20
6.5.2.3	Normal procedures for transfer by rerouting	20
6.5.2.4	Exceptional procedures for transfer by rerouting	21
6.5.3	Actions at a Secondary PTNX	22
6.5.3.1	Normal procedures for transfer by join	22
6.5.3.2	Exceptional procedures for transfer by join	22
6.5.3.3	Normal procedures for transfer by rerouting	22
6.5.3.4	Exceptional procedures for transfer by rerouting	23
6.5.4	Actions at a Transit PTNX	24
6.5.5	Subsequent actions at a Primary and a Secondary PTNX	24
6.6	SS-CT impact of interworking with public ISDNs	24
6.6.1	Actions at a Gateway PTNX	24
6.6.1.1	Impact of interworking if User A is in the PTN	24
6.6.1.2	Impact of interworking if a PTN User is transferred by the public ISDN	24
6.6.2	Actions at other types of PTNX	25
6.7	SS-CT impact of interworking with non-ISDNs	25
6.7.1	Actions at a Gateway PTNX	25
6.7.1.1	Transfer within the PTN	25
6.7.1.2	Transfer within the non-ISDN	25
6.7.1.3	Co-operation with a non-ISDN in providing transfer by rerouting	26
6.7.2	Actions at other types of PTNX	26
6.8	SS-CT Parameter Values (Timers)	26
6.8.1	Timer T1	26
6.8.2	Timer T2	26
6.8.3	Timer T3	27
6.8.4	Timer T4	27
Annex A (normative):	Protocol Implementation Conformance Statement (PICS) proforma	28
A.1	Introduction	28
A.2	Instructions for completing the PICS proforma	28
A.2.1	General structure of the PICS proforma	28
A.2.2	Additional information	29
A.2.3	Exception information	29
A.3	PICS proforma for ETS 300 261	30
A.3.1	Implementation identification	30
A.3.2	Protocol summary	30
A.3.3	General	30
A.3.4	Procedures for SS-CT-Join	31
A.3.5	Additional procedures for SS-CT-Rerouting	32
A.3.6	Coding	33
A.3.7	Timers	33
Annex B (informative):	Imported ASN.1 definitions relating to numbers	34
Annex C (informative):	Examples of message sequences	37
C.1	Example message sequence for normal operations of call transfer by join, both calls active	38

C.2 Example message sequence for call transfer by join, one call alerting	39
C.3 Example message sequence for normal operation of call transfer by rerouting	40
C.4 Example message sequence for normal operation of call transfer by rerouting, one call alerting	42
Annex D (informative): Specification and Description Language (SDL): Representation of procedures	44
D.1 SDL Representation of SS-CT at a Transferring PTNX	44
D.2 SDL Representation of SS-CT at a Primary PTNX	47
D.3 SDL Representation of SS-CT at a Secondary PTNX	51
History	53

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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 ETS specifies the signalling protocol for use at the Q-reference point in support of the Call Transfer supplementary service (CT).

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.

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 the signalling protocol for the support of the Call Transfer supplementary service (SS-CT) at the Q reference point between Private Telecommunication Network Exchanges (PTNXs) connected together within a Private Telecommunication Network (PTN).

SS-CT is a supplementary service which enables a User to transform two of that User's calls (at least one of which must be answered) into a new call between the two other users of these two calls.

The Q reference point is defined in ENV 41004.

Service specifications are produced in three stages and according to the method specified in ENV 41005. This ETS contains the stage 3 specification for the Q reference point and satisfies the requirements identified by the stage 1 and stage 2 specifications in ETS 300 260.

The signalling protocol for SS-CT operates on top of the signalling protocol for basic circuit switched call control, as specified in ETS 300 172, and uses certain aspects of the generic procedures for the control of supplementary services specified in ETS 300 239.

The impact on the protocol of interactions between the Call Transfer service and other supplementary services is outside the scope of this ETS.

This ETS is applicable to PTNXs which can interconnect to form a PTN.

2 Conformance

In order to conform to this ETS, a PTNX shall satisfy the requirements identified in the Protocol Implementation Conformance Statement (PICS) proforma in annex A.

3 References

- <https://standards.iteh.ai/catalog/standards/sist/ea006249-8375-4e8f-85b0-ac63793948e1/sist-ets-300-261-e1-2005>
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Reference configuration for connectivity relations of private telecommunication network exchanges (1989).
- ENV 41004
- 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 300 172 Private Telecommunication Network (PTN); Inter-exchange signalling protocol, Circuit mode basic services (1992).
- ETS 300 196 ISDN - Generic Functional Protocol for the Support of Supplementary Services - DSS1 Protocol.
- ETS 300 238 Private Telecommunication Network (PTN); Signalling between private telecommunication exchanges, Protocol for the support of name identification supplementary services (1993).
- ETS 300 239 Private Telecommunication Network (PTN); Signalling between private telecommunication exchanges, Generic functional protocol for the support of supplementary services (1993).
- ETS 300 260 Private Telecommunication Networks (PTN); Specification, functional models and information flows, Call transfer supplementary service (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).

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:

- Alerting (ETS 300 260);
- Answered (ETS 300 260);
- Application Protocol Data Unit (APDU) (ETS 300 239);
- Basic Service (CCITT Recommendation I.210);
- Gateway PTNX (ETS 300 172);
- Interpretation APDU (ETS 300 239);
- Network Facility Extension (NFE) (ETS 300 239);
- Originating PTNX (ETS 300 239);
- Primary Call (ETS 300 260);
- Private (ENV 41007);
- Private Telecommunication Network Exchange (PTNX) (ENV 41007);
- Public ISDN (ENV 41007);
- Secondary Call (ETS 300 260);
- Signalling (CCITT Recommendation I.112);
- Supplementary Service (CCITT Recommendation I.210);
- Supplementary Service Control Entity (ETS 300 239);
- Telecommunication Network (ENV 41007);
- Terminal (ENV 41007);
- Terminating PTNX (ETS 300 239);
- Transfer by join (ETS 300 260);
- Transfer by rerouting (ETS 300 260);
- Transit PTNX (ETS 300 239);
- User (ETS 300 171);
- User A (ETS 300 260);
- User B (ETS 300 260);
- User C (ETS 300 260).

4.2 End PTNX

Within the context of a call, a PTNX which is not acting as a Transit PTNX, i.e. an Originating PTNX, a Terminating PTNX, or a Gateway PTNX.

4.3 Primary PTNX

The End PTNX which is on the end of the Primary Call nearest to User B.

4.4 Redirection Number

The number of a transferred User, as provided to the PTNX of the other transferred User.

4.5 Secondary PTNX

The End PTNX which is on the end of the Secondary Call nearest to User C.

4.6 Transferring PTNX

The End PTNX which initiates the call transfer procedures on behalf of User A.

5 List of acronyms

APDU	Application Protocol Data Unit
ASN.1	Abstract Syntax Notation no. 1
ISDN	Integrated Services Digital Network
NFE	Network Facility Extension
PICS	Protocol Implementation Conformance Statement
PTN	Private Telecommunication Network
PTNX	Private Telecommunication Network Exchange
SDL	Specification and Description Language
SS-CT	Supplementary Service Call Transfer
TE	Terminal Equipment

6 Signalling protocol for the support of SS-CT

6.1 SS-CT description

Call Transfer (CT) is a supplementary service which enables a user to transform two of that user's calls (at least one of which must be answered) into a new call between the two other users in the two calls.

This supplementary service is applicable to basic services defined in ETS 300 171.

Call transfer can be achieved by using one of two methods; transfer by join and transfer by rerouting. Support of transfer by join is mandatory. Support of transfer by rerouting is an option, which, if not supported by all PTNXs involved in the operation of call transfer, allows fall back to using transfer by join.

NOTE 1

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When an active call has been transferred to an alerting call, the supervision during the alerting phase and the possible procedures to be followed in case the alerting call remains unanswered are outside the scope of this ETS.

6.2 SS-CT operational requirements

6.2.1 Provision/Withdrawal

Provision and withdrawal shall be in accordance with 6.2.1 of ETS 300 260.

6.2.2 Requirements on a Transferring PTNX

The basic call procedures specified in ETS 300 172 shall be supported. Generic procedures for the call-related control of supplementary services, as specified in ETS 300 239 for an End PTNX, shall apply.

6.2.3 Requirements on a Primary PTNX

The basic call procedures specified in ETS 300 172 shall be supported.

Generic procedures for the call-related control of supplementary services, as specified in ETS 300 239 for an End PTNX, shall apply.

6.2.4 Requirements on a Secondary PTNX

The basic call procedures specified in ETS 300 172 shall be supported.

Generic procedures for the call-related control of supplementary services, as specified in ETS 300 239 for an End PTNX, shall apply.

6.2.5 Requirements on a Transit PTNX

The basic call procedures specified in ETS 300 172 shall be supported.

Generic procedures for the call-related control of supplementary services, as specified in ETS 300 239 for a Transit PTNX, shall apply.

For SS-CT the requirements are limited to the passing on of Facility information elements for which the destination, as indicated in the NFE, is not the Transit PTNX.

6.3 SS-CT coding requirements**6.3.1 Operations**

The following operations, defined in Abstract Syntax Notation number 1 (ASN.1) in table 1 shall apply.

Table 1 - Operations in support of SS-CT

Call-Transfer-Operations	{ccitt(0) identified-organization(3) etsi(0) qsig-call-transfer(261) call-transfer-operations (0)}
DEFINITIONS EXPLICIT TAGS ::=	
BEGIN	
IMPORTS	OPERATION,ERROR FROM Remote-Operation-Notation {joint-iso-ccitt(2) remote-operations(4) notation(0) } Extension FROM Manufacturer-specific-service-extension-definition {ccitt(0) identified-organization(3) etsi(0) qsig-generic-procedures (239) msi-definition(0) } Name FROM Name-Operations { ccitt(0) identified-organization (3) etsi(0) qsig-name (238) name-operations (0) } notAvailable, invalidCallState, supplementaryServiceInteractionNotAllowed, FROM General-Errors {ccitt(0) identified-organization(3) etsi (0) 196 general-errors (2)} PresentedAddressScreened, PresentedNumberScreened, PartyNumber, PartySubaddress FROM Addressing-Data-Elements { ccitt(0) identified-organization(3) etsi(0) 196 addressing-data-elements (6)} -- Note. The definitions of PresentedAddressScreened, -- PresentedNumberScreened, PartyNumber, and PartySubaddress are -- reproduced in annex B QSIGInformationElement FROM Generic-parameters-definition { ccitt(0) identified-organization(3) etsi(0) qsig-generic-procedures (239) qsig-generic-parameters (6) };
ptn OBJECTIDENTIFIER	::= {iso(1) identified-organization(3) icd-ecma(0012) private-isdn-signalling-domain(09)}
CallTransferIdentify	::= OPERATION ARGUMENT DummyArg RESULT CTIdentifyRes ERRORS { notAvailable, invalidCallState, supplementaryServiceInteractionNotAllowed, unspecified}

CallTransferAbandon	::= OPERATION ARGUMENT DummyArg
CallTransferInitiate	::= OPERATION ARGUMENT CTInitiateArg RESULT DummyRes ERRORS { notAvailable, invalidCallState, invalidReroutingNumber, unrecognizedCallIdentity, establishmentFailure, supplementaryServiceInteractionNotAllowed, unspecified }
CallTransferSetup	::= OPERATION ARGUMENT CTSetupArg RESULT DummyRes ERRORS { notAvailable, invalidCallState, invalidReroutingNumber, unrecognizedCallIdentity, unspecified }
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CallTransferActive	::= OPERATION ARGUMENT CTActiveArg
CallTransferComplete	<small>SIST ETS 300 261 E1:2005</small> ::= OPERATION ARGUMENT CTCompleteArg <small>https://standards.iteh.ai/catalog/standards/sist/ea006249-8375-4e8f-85b0-ac63753948e1/sist-ets-300-261-e1-2005</small>
CallTransferUpdate	::= OPERATION ARGUMENT CTUpdateArg
SubaddressTransfer	::= OPERATION ARGUMENT SubaddressTransferArg
DummyArg	::= CHOICE { NULL, [1] IMPLICIT Extension, [2] IMPLICIT SEQUENCE OF Extension }
DummyRes	::= CHOICE { NULL, [1] IMPLICIT Extension, [2] IMPLICIT SEQUENCE OF Extension }
CTIdentifyRes	::= SEQUENCE { callIdentity CallIdentity, reroutingNumber PartyNumber, resultExtension CHOICE { [6] IMPLICIT Extension, [7] IMPLICIT SEQUENCE OF Extension } OPTIONAL }