SLOVENSKI STANDARD
SIST ETS 300 239 E1:2005

01-maj-2005

Zasebno telekomunikacijsko omrežje (PTN) ï Medcentralni signalizacijski protokol - Generiļ ni funkcijski protokol za podporo dopolnilnim storitvam

Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Generic functional protocol for the support of supplementary services

Ta slovenski standard je istoveten z: ETS 300 239 Edition 1

ICS:

33.040.35 Telefonska omrežja Telephone networks

SIST ETS 300 239 E1:2005 **en**

EUROPEAN TELECOMMUNICATION STANDARD

ETS 300 239

June 1993

Source: ETSI TC-ECMA

Reference: DE/ECMA-0045

ICS: 33.080

Key words: PTN, QSIG-GF, ECMA-165

Private Telecommunication Network (PTN); Inter-exchange signalling protocol Generic functional protocol for the support of supplementary services

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

Blank Page

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 defines the signalling protocol for use at the Q reference point between two PTNXs for the transport of protocol information as part of supplementary services and/or Additional Network Features (ANFs) within a Private Telecommunication Network.

The generic functional procedures provide a flexible and open ended approach to the provision of Supplementary service and ANF protocols. These procedures provide:

- generic protocols which may be utilised in the provision of Supplementary services and ANFs, both related to existing calls and separate from existing calls where appropriate to the capability required;
- a dialogue identification protocol to enable Supplementary service or ANF information flows to be tied together to form a dialogue;
- Supplementary service and ANF transparency across a PTN, whereby transit PTNXs need have no knowledge of the capability provided to the PTN user or PTN itself unless involved in the provision of that capability; and
- the capability for standardised and manufacturer specific capabilities to coexist in both single and multi-vendor PTNs.

The protocol defined in this ETS is based upon that described in ETS 300 196.

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

Blank Page

1 Scope

This ETS specifies the generic functional protocol for the control of Supplementary services and Additional Network Features (ANFs) at the Q reference point. The Q reference point exists between Private Telecommunication Network Exchanges (PTNX) connected together within a Private Telecommunication Network (PTN) and is defined in ENV 41004. Detailed procedures applicable to individual Supplementary services and ANFs are beyond the scope of this ETS.

ETS 300 172 defines the Layer 3 protocol for circuit-switched call control at the Q reference point. This ETS defines additional protocol procedures, to be used in conjunction with those defined in ETS 300 172 for the control of Supplementary services and ANFs. The protocol defined in this ETS can also be used for the transport of Manufacturer Specific Information (MSI) between PTNXs.

NOTE 1

Typical examples of the application of these generic functional procedures to some Supplementary services are provided in Annex A, for explanatory and illustrative purposes only.

NOTE 2

Specific Supplementary services and Additional Network Features may require additional information transfer mechanisms which are service or feature specific and are beyond the scope of this ETS.

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 J.

3 References

ETS 300 171 (1992)	Private Telecommunication Networks (PTN) - Specification, Functional Model and Information Flows - Control Aspects of Circuit Mode Basic Services
ETS 300 172 (1992)	Private Telecommunication Networks (PTN) - Inter-exchange signalling protocol - Circuit mode basic services
ETS 300 196	Integrated Services Digital Network (ISDN) - Generic functional protocol for the support of supplementary services - Digital Subscriber Signalling System No. One (DSS1) protocol
ENV 41004 (1989)	Reference Configurations for Calls Through Exchanges of Private Telecommunication Networks
ENV 41007 (1989)	Definitions of Terms in Private Telecommunication Networks
CCITT Rec. I.112 (1988)	Vocabulary of Terms for ISDNs
CCITT Rec. I.210 (1988)	Principles of Telecommunication Services Supported by an ISDN and the Means to Describe Them
CCITT Rec. X.208 (1988)	Specification of Abstract Syntax Notation One (ASN.1)
CCITT Rec. X.209 (1988)	Encoding Rules for Abstract Syntax Notation One (ASN.1)
CCITT Rec. X.219 (1988)	Remote Operations Model, Notation and Service
CCITT Rec. X.229 (1988)	Remote Operations Protocol Specification

4 Definitions

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

4.1 External definitions

This ETS uses the following terms defined in other documents:

Connection	(ENV 41007)
Link	(ENV 41007)
Private	(ENV 41007)
Private Telecommunication Network Exchange (PTNX)	(ENV 41007)
Service	(CCITT Rec. I.112)
Signalling	(CCITT Rec. I.112)
Terminal, Terminal Equipment	(ENV 41007)
User	(ETS 300 171)

4.2 Additional Network Feature (ANF)

A capability provided by a PTN, not generally directly to a User, over and above that of the Basic call.

4.3 Adjacent PTNX

A PTNX as considered from another PTNX to which it is directly connected via one or more inter-PTNX links.

4.4 Application Protocol Data Unit (APDU)

A sequence of data elements exchanged between peer application layer entities, e.g. DSE APDUs and ROSE APDUs.

4.5 Call, Basic call

An instance of the use of a basic service.

4.6 Call independent signalling connection

A signalling connection established between SS-Control entities located in different PTNXs that does not have an associated user-information connection.

4.7 Call independent

A property of information which is conveyed across the Q reference point in a message which does not use a call reference which has an associated user-information connection (that is, using a Connectionless or Connection oriented transport mechanism as defined in 7.2 or 7.3).

4.8 Call related

A property of information which is conveyed across the Q reference point in a message which uses a call reference which has an associated user-information connection.

4.9 Connection oriented

Communication between peer protocol entities by means of a connection or association established by an underlying layer.

4.10 Connectionless

Communication between peer protocol entities by means of an unacknowledged, unidirectional transport mechanism provided by an underlying layer.

4.11 Co-ordination Function

An entity which provides co-ordination between various SS-Control entities, ROSE, DSE, GFT-Control and Call Control for different Supplementary services (see clause 6).

4.12 Destination PTNX

In the context of a single one-way exchange of information between two SS-Control entities, the PTNX where the receiving SS-Control entity is located.

4.13 DSE APDU

An APDU defined by the Dialogue Service Element.

4.14 Dialogue Service Element (DSE)

A service element which provides services to SS-Control via the Co-ordination Function that associate ROSE APDUs which are not implicitly associated by an underlying network layer connection.

4.15 End PTNX

In the context of a particular call, an Originating or Terminating PTNX. It can also be a Gateway PTNX, dependent on the capabilities of the signalling system being interworked (i.e. unless it transports APDUs unchanged to or from the other signalling system).

4.16 Gateway PTNX

Sub-clause 5.1.5 of ETS 300 172 shall apply. Dependent on the capabilities of the signalling system being interworked by the Gateway PTNX, it can act as a Transit or an End PTNX in the context of the Supplementary services APDUs. That is, it can either transport the APDUs unchanged to or from the other signalling system, perhaps embedded in some other protocol unit, or process the APDUs and perform an interworking function of the information flows and encoding of the Supplementary service concerned.

4.17 Generic Functional Transport Control (GFT-Control) entity

The entity that exists within a PTNX and provides a range of services (defined in clause 6) to SS-Control, ROSE and DSE via the Co-ordination Function.

4.18 Incoming side

In the context of a Call independent signalling connection, the Side which receives the request for connection establishment from the Preceding PTNX.

4.19 Interpretation APDU

An APDU defined by the Co-ordination Function.

4.20 Invocation

A request by a SS-Control entity to perform an operation in a remote SS-Control entity.

4.21 Link significance

A property of a Facility information element which does not contain a Network Facility Extension octet group. It indicates that the element has only significance on a single inter-PTNX link - i.e. only between two Adjacent PTNXs.

4.22 Mistyped

A property of an APDU whose structure does not conform to the structure defined in clause 11 of this ETS or the structure defined for a particular Supplementary service.

4.23 Network significance

A property of a Facility information element which includes a Network Facility Extension octet group. It indicates that the element has significance between two PTNXs which are not necessarily Adjacent.