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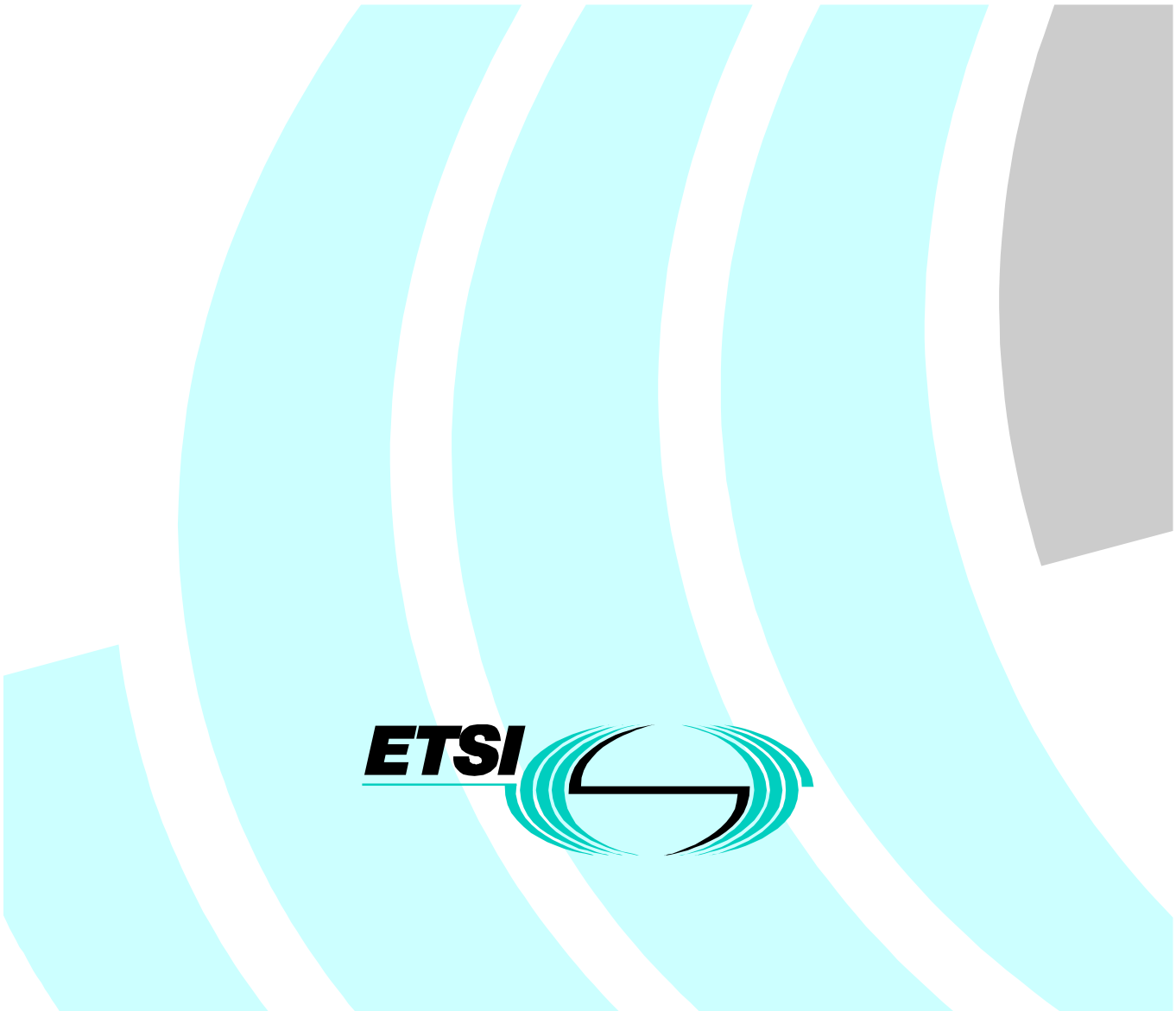
European Standard (Telecommunications series)

Integrated Services Digital Network (ISDN); Signalling System No.7; Support of Virtual Private Network (VPN) applications with Private network Q reference point Signalling System number 1 (PSS1) information flows; Part 1: Protocol specification

[ITU-T Recommendations Q.765.1 and Q.699.1, modified]



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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 1 of a multi-part EN covering Integrated Services Digital Network (ISDN); Signalling System No.7; Support of Virtual Private Network (VPN) applications with Private network Q reference point Signalling System number 1 (PSS1) information flows, as identified below:

Part 1: Protocol specification;

Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification;

Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification;

Part 4: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) specification.

National transposition dates	
Date of latest announcement of this EN (doa):	31 January 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 July 2000
Date of withdrawal of any conflicting National Standard (dow):	31 July 2000

Endorsement notice

The text of draft ITU-T Recommendations Q.765.1 and Q.699.1 was approved by ETSI as an EN with agreed modifications as given below.

Scope and References clauses

Delete the clauses "Scope", "References" from ITU-T Recommendations Q.765.1 (1998-05) and Q.699.1 (1990-05) and replace with the following two clauses (Scope and Normative references):

Scope

The present document describes the extensions required for the support of Virtual Private Network (VPN) applications over the public Network Node Interface (NNI). This application makes use of the Application Transport Mechanism (APM) described in EN 301 069-1 for bearer related signalling, and the Transaction Capability (TC) for signalling involving no bearer. The present document specifies the respective users (i.e. APM-user, TC-user) to support the PSS1 information flows continuity in VPN applications (Transparent transfer of PSS1 information flows between PINX entities). The public NNI provides transparency to the services of the private network.

The private network functionality is defined by ISO in its series of standards for Private Integrated Services Network (PISN). In addition, the concept of a "Relay node" is introduced by the present document.

The present document provides for a number of network options. These are summarized in table 1.

Table 1: Network options

Option	Values	Remarks
Support of GFP functionality at transit PINX nodes (subclause 6.2.5)	Full support	
	Partial support	Not applicable in the international network (note 1)
Support of GFP functionality at gateway PINX nodes (subclause 6.2.6)	Full support	
	No support	(note 1)
Continuation of calls with no application association (subclause 6.2.6)	Supported	(note 2)
	Not supported	(note 3)
Relocation of gateway function (subclause 6.2.6)	Supported	
	Not supported	

NOTE 1: Use of these options might result in certain private network supplementary services behaving in an unexpected manner or not working at all.
NOTE 2: In this case VPN calls has to be routed using a mechanism which can correctly route the call to the terminating access without use of the VPN procedures specified in the present document.
NOTE 3: In this case, it is required that the VPN procedures are only used on calls which are routed to addresses which are known to support the VPN application via signalling which supports the APM, otherwise the call will be released.

In addition, this EN describes the interworking between Signalling System Number 7 (ISDN) and extended DSS1 for the support of VPN applications with PSS1 information flows. For the interworking in this EN related to ISUP, these replace that specified in ETS 300 899 whereas all other interworking of PSS1 information flows is according to that specified in ETS 300 899.

The interworking described here provides a sub-set of all possible interworking scenarios and is therefore intended to describe only the relevant mapping of information flows between the two interfaces being described.

Normative references

References may be made to:

a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or

b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or

c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or

d) publications without mention of a specific version, in which case the latest version applies.

A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] ISO/IEC 11574: " Information technology -- Telecommunications and information exchange between systems -- Private Integrated Services Network -- Circuit-mode 64 kbit/s bearer services -- Service description, functional capabilities and information flows".

[2] ISO/IEC 11572 Second edition and Amendments 1 and 2: "Information technology -- Telecommunications and information exchange between systems -- Private Integrated Services Network -- Circuit mode bearer services -- Inter-exchange signalling procedures and protocol".

[3] ISO/IEC 11582: " Information technology -- Telecommunications and information exchange between systems -- Private Integrated Services Network -- Generic functional protocol for the support of supplementary services -- Inter-exchange signalling procedures and protocol".

[4] ISO/IEC 11579-1: "Information technology -- Telecommunications and information exchange between systems -- Private integrated services network -- Part 1: Reference configuration for PISN Exchanges (PINX)".

[5] ISO/IEC 15055: "Information technology -- Telecommunications and information exchange between systems -- Private Integrated Services Network -- Specification, functional model and information flows -- Transit counter additional network feature".

[6] ISO/IEC 15056: "Information technology -- Telecommunications and information exchange between systems -- Private Integrated Services Network -- Inter-exchange signalling protocol -- Transit counter additional network feature".

[7] ETS 300 009 (1991): "Integrated Services Digital Network (ISDN); CCITT Signalling System No.7; Signalling Connection Control Part (SCCP) [connectionless service] to support international interconnection".

[8] EN 300 356-1 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No. 7; ISDN User Part (ISUP) version 3 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1997), modified]".

[9] ETS 300 121 (1993): "Integrated Services Digital Network (ISDN); Application of the ISDN User Part (ISUP) of CCITT Signalling System No.7 for international ISDN interconnections (ISUP version 1)".

[10] ETS 300 134 (1993): "Integrated Services Digital Network (ISDN); CCITT Signalling System No.7; Transaction Capabilities Application Part (TCAP)".

[11] EN 301 060-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Basic call applications; Enhancement at the "b" service entry point for Virtual Private Network (VPN) applications; Part 1: Protocol specification".

[12] EN 301 061-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Generic functional protocol for the support of supplementary services for Virtual Private Network (VPN) applications; Part 1: Protocol specification".

[13] EN 301 069-1 (1997): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Application Transport Mechanism (APM); Part 1: Protocol specification".

[14] ITU-T Recommendation Q.1400 (1993): "Architecture framework for the development of signalling and OA&M protocols using OSI concepts".

[15] ITU-T Recommendations:
X.680 (1994): "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation";
X.681 (1994): "Information Technology - Abstract Syntax Notation One (ASN.1): Information object specification";
X.682 (1994): "Information technology - Abstract Syntax Notation One (ASN.1): Constraint specification";
X.683 (1994): "Information technology - Abstract Syntax Notation One (ASN.1): Parameterization of ASN.1 specifications".

[16] ETS 300 899: "Integrated Services Digital Network (ISDN); Signalling System No. 7; Interworking between ISDN User Part (ISUP) version 2 and Digital Subscriber Signalling System No. one (DSS1) [ITU-T Recommendation Q.699, modified]".

Throughout the text of ITU-T Recommendations Q.765.1 and Q.699.1

Replace references as shown below.

Reference in ITU-T Recommendations Q.765.1 and Q.699.1	Modified reference
ITU-T Recommendations Q.711 to Q.716	ETS 300 009 [7]
ITU-T Recommendation Q.761	EN 300 356-1 [8]
ITU-T Recommendation Q.762	EN 300 356-1 [8]
ITU-T Recommendation Q.763	EN 300 356-1 [8]
ITU-T Recommendation Q.764	EN 300 356-1 [8]
ITU-T Recommendation Q.767	ETS 300 121 [9]
ITU-T Recommendations Q.771 to Q.775	ETS 300 134 [10]
ITU-T Recommendation Q.931/Annex M	EN 301 060-1 [11]
ITU-T Recommendation Q.932/Annex D	EN 301 061-1 [12]
ITU-T Recommendation Q.765	EN 301 069-1 [13]
ITU-T Recommendation Q.765.1	The present document
ITU-T Recommendation Q.699	ETS 300 899 [16]
Annex T	EN 300 356-1 [8]

Throughout the text of ITU-T Recommendations Q.765.1 and Q.699.1 replace "ISUP '92" by "ISUP v2".

Throughout the text of ITU-T Recommendations Q.765.1 and Q.699.1 replace "ISUP '97" by "ISUP v3".

History

Document history		
V1.2.2	July 1998	Publication
V1.2.3	October 1999	Publication