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Integrated Services Digital Network (ISDN); Syntax-based videotex lower layer protocols for ISDN packet mode (CCITT Recommendation X.31 Case A and Case B)

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Terminal Equipment (TE) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS contains five informative annexes (Annexes A to E).

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1 Scope

This ETS specifies the usage of all protocols and supplementary services up to and including layer 3 for Syntax-based Videotex (SBV) terminal equipment in the Integrated Services Digital Network (ISDN). The scope of this ETS is limited to virtual circuits using the three different DTE/DCE modes of connection, i.e.:

- a) the DTE/DCE connection to Public Switched Packet Data Network (PSPDN) services (CCITT Recommendation X.31 [4], Case A);
- b) the ISDN virtual circuit service through the B-channel (CCITT Recommendation X.31 [4], Case B);
- c) the ISDN virtual circuit service through the D-channel (CCITT Recommendation X.31 [4], Case B).

This ETS is applicable to terminal equipment supporting the Syntax-based Videotex using either basic access or primary rate access to the ISDN. In this context, a terminal equipment is either a Videotex Terminal, a Videotex Service Centre, a Videotex Access Point or a Videotex Host (cf. subclause 3.1).

This ETS is based on other ETSs, International Standards or CCITT Recommendations and, where necessary, it adds new or other requirements as application rules.

Conformance testing will be specified by reference to the individual Protocol Implementation Conformance Statement (PICS) proformas and the Abstract Test Suites (ATS).

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] <https://standards.iteh.ai/catalog/standards/sist/5dac315e-7e6c-43e6-80bc-25bd2b104d1e/sist-ets-300-218-e1-2003> CCITT Recommendation F.300 (1988): "Videotex service".
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- [3] CCITT Recommendation X.25 (1988): "Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit".
- [4] CCITT Recommendation X.31 (1988): "Support of packet mode terminal equipment by an ISDN".
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- [8] ETS 300 012 (1992): "Integrated Services Digital Network (ISDN); Basic user-network interface, Layer 1 specification and test principles".
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- [10] ETS 300 104 (1990): "Integrated Services Digital Network (ISDN); Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access; Layer 3 aspects (Candidate NET 3 Part 2)".
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- [21] ISO 7776 (1986): "Information processing systems - Data communications - High-level data link control procedures - Description of the X.25 LAPB-compatible DTE data link procedures".
- [22] ISO 7776/DAM1 (1990): "Information processing systems - Data communications - High-level data link control procedures - Description of the X.25 LAPB-compatible DTE data link procedures. Draft Amendment 1: Conformance requirements; Annex A (Normative): PICS Proforma".
- [23] ISO/IEC 8208: "Information processing systems - Data communications - X.25 Packet Layer Protocol for Data Terminal Equipment".
- [24] ISO/IEC 8208/Addendum 3: "Information processing systems - Data communications - X.25 Packet layer protocol for Data Terminal Equipment. Addendum 3: Conformance requirements; Annex C (Normative): PICS Proforma".
- [25] ISO 8882-2 (1990): "Information technology - Telecommunications and information exchange between systems - X.25 DTE conformance testing part 2: data link layer test suite".
- [26] ISO 8882-3 (1991): "Information technology - Telecommunications and information exchange between systems - X.25 DTE conformance testing part 3: packet layer conformance test suite".

- [27] ISO/IEC TR 9577 (1990): "Information technology - Telecommunications and information exchange between systems - Protocol identification in the OSI Network Layer".
- [28] ISO/IEC TR 8509 (1987): "Information processing systems - Open Systems Interconnection - Service conventions".

3 Definitions and abbreviations

3.1 Definitions

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

Access Function: the functional entity which gives access to the Videotex Service. This entity is an integral part of the Videotex Service.

Access Network: the network which provides the link between the Terminal Function and the Access Function.

Bearer Independent Service Access Point: point in an end system where the user of the Bearer Independent Service (BIS) accesses the service.

Called BIS user: a BIS user with whom a calling BIS user wishes to establish a Network Connection.

Calling BIS user: a BIS user that initiates a Network Connection establishment request.

Data Circuit-terminating Equipment: see ISO/IEC 8208 [23] and CCITT Recommendation X.25 [3].

Data Terminal Equipment: see ISO/IEC 8208 [23] and CCITT Recommendation X.25 [3].

Host Function: the abstraction of the Videotex Applications available in a particular Videotex Service.

Logical Channel: see ISO/IEC 8208 [23] and CCITT Recommendation X.25 [3].

Network Connection: see OSI Reference Model ISO 7498 [20].

Network Layer: see OSI Reference Model ISO 7498 [20].

Network Service: see OSI Reference Model ISO 7498 [20].

Packet Layer: see ISO/IEC 8208 [23] and CCITT Recommendation X.25 [3].

Primitive: see Service Conventions Standard ISO/TR 8509 [28].

Terminal Function: the abstraction of a functional entity which acts as a Videotex Terminal.

Videotex Access Point: see CCITT Recommendation F.300 [1].

Videotex Host: this term describes a computer which offers one or more applications and/or facilities. It can be represented through a Videotex Host Computer, an External Videotex Host or a Videotex Service Centre.

Videotex Host Computer: see CCITT Recommendation F.300 [1].

Videotex Service: see CCITT Recommendation F.300 [1].

Videotex Service Centre: see CCITT Recommendation F.300 [1].

NOTE: According to CCITT Recommendation F.300 [1], a Videotex Service Centre provides host and/or access functions, i.e., it may also act as a Videotex Access Point.

Videotex Terminal: see CCITT Recommendation F.300 [1].

Virtual Call: see ISO/IEC 8208 [23] and CCITT Recommendation X.25 [3].

Virtual circuit: see ISO/IEC 8208 [23] and CCITT Recommendation X.25 [3].

3.2 Abbreviations

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

AU	Access Unit
BC	Bearer Capability
BIS	Bearer Independent Service
BRA	Basic Rate Access
CCITT	International Telegraph and Telephone Consultative Committee
CES	Connection Endpoint Suffix
D-bit	Delivery Confirmation bit
DCE	Data Circuit-terminating Equipment
DDI	Direct Dialling In
DTE	Data Terminal Equipment
DXE	either a DTE or a DCE
ETS	European Telecommunication Standard
ETSI	European Telecommunications Standards Institute
HLC	High Layer Compatibility
ISDN	Integrated Services Digital Network
ISO	International Organization for Standardization
LAPB	Link Access Procedure - Balanced
LAPD	Link Access Procedure on the D-Channel
LLC	Low Layer Compatibility
M-bit	More Data bit
MSN	Multiple Subscriber Number
NL	Network Layer
NS	Network Service
OSI	Open Systems Interconnection
PABX	Private Automatic Branch eXchange
PDN	Public Data Network
PH	Packet Handler
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PLP	Packet Layer Protocol
PRA	Primary Rate Access
PSPDN	Packet Switched Public Data Network
PSTN	Public Switched Telephone Network
PVC	Permanent Virtual Circuit
Q-bit	Qualifier bit
SBV	Syntax-Based Videotex
SUB	Subaddressing
TP	Terminal Portability
UUS	User-to-User Signalling
VC	Virtual Call
XID	eXchange Identification

4 Introduction

4.1 General

The following subclauses specify the additional requirements to those as specified in ETS 300 223 [16] to provide the Bearer Independent Service for syntax-based Videotex (SBV BIS).

ISDN end-systems conforming to this ETS present protocol stacks at the S or T reference point as indicated in subclause 4.3. Only virtual circuit services are within the scope of this ETS.

For outgoing calls, the requirements of subclause 7.1 in ETS 300 007 [6] shall apply.

For incoming calls, the requirements of subclause 7.2 in ETS 300 007 [6] shall apply.

The following subclauses consider the different cases of CCITT Recommendation X.25 [3] packet service access types (i.e., CCITT Recommendation X.31 [4] Case A, X.31 [4] Case B, B-channel or D-channel).

NOTE 1: Annex A (informative) gives an overview of all the different possible communication modes in an ISDN.

NOTE 2: Annex B (informative) summarises possibilities for accessing the CCITT Recommendation X.25 [3] packet services at the S/T reference point and gives the different parameters for case selection.

NOTE 3: In the following subclauses, the term "Semi-permanent" refers to both of the two access types as defined in Clause 7 of ETS 300 007 [6].

4.1.1 CCITT Recommendation X.31 Case A access

For the CCITT Recommendation X.31 [4] Case A "Switched" access of the B-channel, the requirements of Clauses 5 (Layer 1) and 6 shall apply.

For the CCITT Recommendation X.31 [4] Case A "Semi-permanent" access of the B-channel, the requirements of Clause 5 (Layer 1) and of subclauses 6.1.5 (error handling), 6.2.2 (Layer 2 of the B-channel) and 6.3.2 (Layer 3 of the B-channel) shall apply.

4.1.2 CCITT Recommendation X.31 Case B, B-channel access

For the CCITT Recommendation X.31 [4] Case B "Switched" access of the B-channel, the requirements of Clauses 5 (Layer 1) and 7 shall apply.

For the CCITT Recommendation X.31 [4] Case B "Semi-permanent" access of the B-channel, the requirements of Clause 5 (Layer 1) and of subclauses 7.1.5 (error handling), 7.2.2 (Layer 2 of the B-channel) and 7.3.2 (Layer 3 of the B-channel) shall apply.

4.1.3 CCITT Recommendation X.31 Case B, D-channel access

The requirements of Clauses 5 (Layer 1) and 8 shall apply, except that subclause 8.2.2.4 (Incoming calls) shall not be applicable if the "No notification" class is used.