SLOVENSKI STANDARD
SIST ETS 300 075 E1:2003

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Terminalska oprema (TE) ï Podatki sistema Videotex, ki jih je mogoļ e obdelati

Terminal Equipment (TE); Videotex processable data

Ta slovenski standard je istoveten z: **ETS 300 075 Edition 1**

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33.160.99	Druga avdio, video in avdiovizuelna oprema	Other audio, video and audiovisual equipment
35.180	Terminalska in druga periferna oprema IT	IT Terminal and other peripheral equipment

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0 Foreword

This European Telecommunication Standard (ETS) was produced by the Terminal Equipment (TE) Technical Committee of the European Telecommunications Standards Institute (ETSI) and adopted in September 1990.

This ETS describes the videotex processable data enabling symmetrical file transfer and includes, as a subset, a basic kernal which provides only for file transfer from host to terminal.

This standard is one of an integrated package of 5 ETSs covering various aspects of videotex which comprises:

ETS 300 072 Terminal Equipment (TE);
Videotex presentation layer protocol
Videotex presentation layer data syntax

ETS 300 073 Videotex presentation layer data syntax
Geometric Display
(CEPT Recommendation T/TE 06-02, Edinburgh 1988)

ETS 300 074 Videotex presentation layer data syntax transparent data
(CEPT Recommendation T/TE 06-03, Edinburgh 1988)

ETS 300 076 Terminal Equipment (TE);
Videotex
Terminal Facility Identifier

This standard and its companion ETSs are based on previous CEPT Recommendations and two of them (ETSs 300 073 to 300 074) are CEPT Recommendations now endorsed as ETSs without modification.

Annex A to this ETS, which gives a presently used processable data protocol for file transfer from host to terminal is informative.

For the purposes of this ETS, the reference made in the text to T/TE 06-01 should be read as Final ETS 300 072.

Whilst every care has been taken in the preparation and publication of this ETS, errors concerning content, typographical or otherwise, may occur. If you have comments which may require a change or amendment to this ETS, please write to "ETSI Standards Management Department" at the address shown on the title page.

VIDEOTEX PROCESSABLE DATA

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PART1: INTRODUCTION

1 FOREWORD

This standard describes the videotex processable data enabling symmetrical file transfer. This standard includes as a subset a basic kernel which provides only for file transfer from host to terminal.

Part 1, Part 2 and all the notes contained in these two parts form an integral part of this document.

Annex A, which gives a presently used processable data protocol for file transfer from host to terminal, is not an integral part of this standard.

This standard has been prepared by the ETSI STC TE-1 VT group.

2 SCOPE

The videotex processable data facility specified in this document is intended to be used for data file transfer. These files may contain computer software or other file types.

This protocol may be used to download file from the host to the terminal. It may also be used for transfering files between two end systems in both directions, all the operations being then performed under the control of one or the other system depending on a preliminary negociation.

It has been defined to work in a videotex environment but it may also work without specific application environment.

3 RELATED STANDARDS.

CCITT T-101 Rev 1988: International Interworking For Videotex Services.

ETS T/TE 06-01: Videotex presentation layer protocol,
Videotex presentation layer data syntax.

PART 2: SERVICE, APPLICATIONS, PROTOCOLS, CODING

0. GENERAL INTRODUCTION

The Videotex processable data facility specified in this document provides particularly for the transfer of files of data; these files may contain computer software, but other file types are not precluded. This facility also provides for data to be reliably transferred to devices associated with a videotex terminal under control of the received data. In addition to transparent transfer, specific standardized provisions are made for passing data to an associated printer, but the protocol is not limited to this device, and other devices may be standardized later.

Two service classes are currently defined in this document:

- A "basic kernel" provides for file transfer from a host to a terminal, all the operations being controlled by the host. The access to a file or to a specific set of files is carried out by performing a videotex dialogue which takes place outside the downloading phase and which is not part of the current specification. Moreover this basic kernel provides for low level recovery mechanisms.

- An enhanced service, called "symmetrical service", provides for transferring files between two systems in both directions, all the operations being able to be performed under the control of one or the other systems according to a preliminary negotiation. The access to a file or to a specific set of files is carried out with a dialogue phase which can be completely automatized and which is part of the dowloading protocol. In this service class enhanced facilities are available: recovery, user identification, window mechanism.

These two service classes allow to support a wide range of applications which require file transfer. Two applications are currently defined in this document: a telesoftware application and a file transfer application intended for printing. These applications are specified as rules for the use of the T-service and as structure and coding of the exchanged files.

Section 1 of this document describes the functions which are offered to an application using the processable data facility. These functions are described in terms of service elements.

In order to allow for the transfer of files in already existing videotex systems as well as allowing more advanced facilities for future systems, the transfer is described as consisting of two layers.

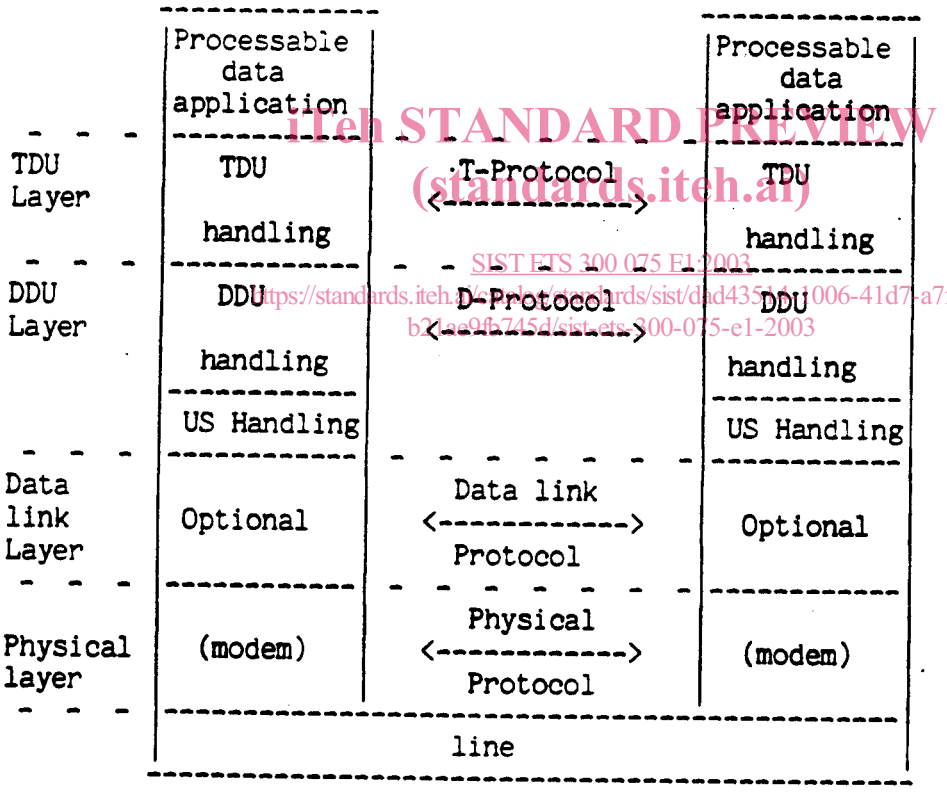
Processable data, including telesoftware files, data for printing, file parameters and control data related to the dowloading procedure are transmitted by means of Telesoftware Data Units (TDU's). These TDU's are exchanged between cooperating entities according to the

T-protocol. This protocol, as well as the specific rules for telesoftware and printer device applications are specified in section 3 of this document.

In addition Dialogue Data Units (DDU's) are used for adaptation to the different Videotex systems. Optional 8-bit transparency capabilities and optional error detection and recovery facilities are provided. Handling of these DDU's are described in section 5 of this document.

Figure 1 describes the theoretical model for handling processable data.

FIGURE 1 - THEORETICAL MODEL OF PROCESSABLE DATA HANDLING



1 SERVICE DEFINITION

1.1 SCOPE AND FIELD OF APPLICATION

This section defines in an abstract way the externally visible service provided by the TDU layer (T-service) in terms of:

a) the primitive actions and events of the service,
b) the parameter data associated with each primitive action and event,
c) the relationship between, and the valid sequence of these actions and events.

This section also describes the processable data applications which make use of the above mentioned service.

1.2 MODEL OF THE T-SERVICE

1.2.1 Service references

This document is based on the concepts which were developed in CCITT and ISO for the description of the OSI Reference model (CCITT Rec. X.200, ISO 7498).

The conventions used to describe this service are based on CCITT Recommendation X.210 (OSI layer service definition conventions).

1.2.2 Service definitions

1.2.2.1 General terms

This section makes use of the following terms as they are defined in Recommendation X.210:

a) service user
b) service provider
c) primitive
d) request
e) indication
f) response
g) confirmation
h) confirmed, non confirmed, provider initiated service

The following definitions also apply:

Optionally confirmed service: confirmed or non confirmed service according to the user's choice specified in the request primitive.

Protocol phase: period of time during which the exchanges are dedicated to a specific function (connection, disconnection, mass transfer ...).

Regime: set of protocol phases; a regime is a continuous period of time. A Regime is established by using a confirmed or optionally confirmed service and it is orderly terminated by using a confirmed service, it may also be interrupted in an abnormal manner.

A regime is fully defined by specifying the service(s) used to establish it and the service(s) used to terminate it. A regime is used in this description to limit the range of some services which may only be available during a particular regime.

Transfer unit: data transferred by using one mass transfer primitive.

Initiator: the entity which initiates a service request.

Acceptor: the entity which accepts (or refuses) a service indication.

1.2.2.2 Regimes

Three regimes are defined: the Association regime, the Access regime and the Transfer regime. In the basic kernel only the Association and the Transfer regimes may be established.

These regimes are defined in section 1.2.3.

In the following, the functions of the regimes and their relationship with each other are specified.

An Association regime determines a period during which two applications remain associated.

An Access regime is used to allow functions to be negotiated and it determines a period during which these functions are available. The Access regime is never established in "basic kernel".

A Transfer regime determines a period during which a mass transfer is performed.

The mass transfer phase is related to the data transfer itself and takes place during a Transfer regime.

An Access regime is established within an Association regime, provided no other Access regime is already established. A Transfer regime is established within an Access regime (symmetrical service) or within an Association regime (basic kernel), provided no other Transfer regime is already established.

Figures 2 and 3 show examples of establishing regimes in the basic kernel and in the symmetrical service.

FIGURE 2- EXAMPLE OF REGIMES ESTABLISHMENT IN THE BASIC KERNEL

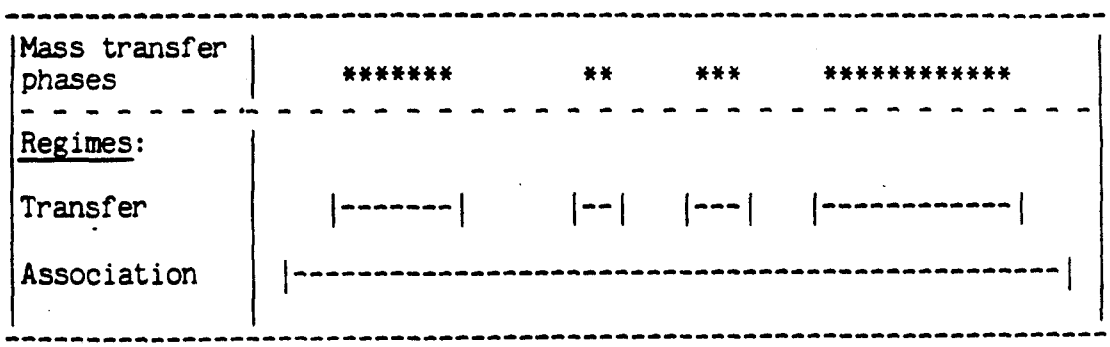


FIGURE 3- EXAMPLES OF REGIMES ESTABLISHMENT IN THE SYMMETRICAL SERVICE

1.2.2.3 Roles

At a given time each entity is assigned a unique role. Within a given regime, a role determines the set of services for which the entity may be initiator or acceptor.

The following roles are defined:

- The **Master** is the entity which controls the dialogue.

- The **Slave** is the entity which performs the operations requested by the Master.

- The **Sender** is the entity which sends the data during a mass transfer.

- The **Receiver** is the entity which receives the data during a mass transfer.

During a whole Transfer regime a given entity keeps the same sender or receiver role.

After having established an Association regime the Master role is assigned to the initiating entity of the association establishement service, the Slave role is assigned to the accepting entity of the association establishment service.

At the Access regime establishment (in symmetrical service) the Master and Slave roles may be modified and will then remain unchanged during the whole Access regime. After the end of the Access regime the Master role is assigned to the initiating entity of the Access regime release service, the Slave role is assigned to the accepting entity of the Access regime release service.

At the Transfer regime establishment the Sender and Receiver roles are assigned according to the mass transfer direction. The mass transfer direction is determined by the service which has been used to establish the Transfer regime. At the end of the Transfer regime, each entity takes its own Master or Slave role which was assigned before the Transfer regime establishment.

In the service class "basic kernel", the mass transfer is always performed in the same direction, therefore the Sender role is always assigned to the Master, the Receiver role is always assigned to the Slave.

1.2.2.4 Local concepts

- The **Server** is the system which contains a database (which stores and retrieves information without processing it). In the basic kernel the **Server** may be called the **Host**.

- The **Executor** is the system which processes the downloaded files.

A given system may contain both a Server application and an Executor application. The Server and Executor concepts are local concepts and are not related with file transmission, however this may impact implementation subsets definition.

In the service class "basic kernel", during a whole association, the Server will play the Master and Sender roles, while the other entity is the Executor and will play the Slave and Receiver roles.

1.2.3 Service elements

1.2.3.1 General organization

Table 1 gives the list of the service elements: