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Amendment 1
T.563
(08/95)

TERMINALS FOR TELEMATIC SERVICES

TERMINAL CHARACTERISTICS FOR GROUP 4 FACSIMILE APPARATUS

Amendment 1 to ITU-T Recommendation T.563

(Previously "CCITT Recommendation")

FOREWORD

The ITU-T (Telecommunication Standardization Sector) is a permanent organ of the International Telecommunication Union (ITU). The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, March 1-12, 1993).

Amendment 1 to ITU-T Recommendation T.563, was prepared by ITU-T Study Group 8 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 11th of August 1995.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

CONTENTS

SUMMARY

Recommendation T.563 defines the terminal characteristics for G4 facsimile apparatus. This amendment contains:

- a new Annex B: "Optional file transfer for Group 4" defines the file transfer function for G4 facsimile as an option;
- the description of the terminal characteristics for the use of Recommendation T.85 for monochrome documents is added as an option.

Amendment 1 to Recommendation T.563

TERMINAL CHARACTERISTICS FOR GROUP 4 FACSIMILE APPARATUS

(1995)

Amendments to the main body of Recommendation T.563

1 Subclause 3.2.9.2 should be amended as follows

3.2.9.2 On an optional basis, an apparatus can use other ITU-T standardized coding schemes defined in Recommendation T.6 or T.85

2 Subclause 5.4 should be amended as follows

5.4 Communication application profile for Group 4 facsimile document

The communication application profile to be used is BT 0, specified in Recommendation T.521.

Specific parameter values to be used in the D-INITIATE and D-CAPABILITY service primitive are:

– The parameter value to represent the document application profile for Group 4 facsimile is defined in Recommendation T.503.

  In case of continuous-tone colour and gray scale extension, the parameter value "05H" is used.

  In case of file transfer function, the parameter value "06H" is used.

– The parameter value to represent the document architecture class is FDA, defined in Recommendation T.412.

New Annex B of Recommendation T.563

Optional file transfer for Group 4

(This annex forms an integral part of this Recommendation)

B.1 Introduction

This annex specifies the technical features of the file transfer for Group 4.

File transfer is an optional feature of Group 4 which permits to transmit any data file with or without additional information concerning the file to be transmitted.

The content of the data file itself may be of any kind of coding.

The file transfer applied to Group 4 equipments is based on Recommendation T.521.

From the point of view of service, file transfer is defined in Recommendation F.551 where alignment between different telematic applications (Group 3, Group 4, teletex) is achieved.

B.2 Definitions

The definitions contained in this Recommendation and in Recommendation T.521 apply unless explicitly amended.

B.3 Normative references

In addition to this Recommendation and Recommendation T.521, the present annex contains references to other ITU-T and ISO Standards:

[1] CCITT Recommendation T.50 (1992), *International Reference Alphabet (IRA) (Formerly International Alphabet No. 5 or IA5) – Information technology – 7-bit coded character set for information interchange*.

[2] CCITT Recommendation X.209 (1988), *Specification of basic encoding rules for Abstract Syntax Notation one (ASN.1)*.

[3] CCITT Recommendation T.434 (1992), *Binary file transfer format for the telematic services*.

[4] ISO/IEC 9735:1988, *Electronic data interchange for administration, commerce and transport (EDIFACT) – Application level syntax rules*.

[5] ITU-T Recommendation F.551 (1993), *Service Recommendation for telematic file transfer within telefax 3, telefax 4, teletex services and message handling services.*

[6] CCITT Recommendation T.51 (1992), *Latin based coded characters sets for telematic services*.

[7] ISO 8859-9:1989, *Information processing – 8 bit single-byte coded graphic character sets – Part 9: Latin Alphabet No. 5*.

B.4 Definition of the different file transfer modes

At the time being, four file transfer modes exist:

- Basic Transfer Mode: (BTM);
- Document Transfer Mode: (DTM);
- Binary File Transfer: (BFT);
- EDIFACT Transfer: (EDI).

For a comprehensive explanation, from the point of view of service, of the use of these four different file transfer modes, see Recommendation F.551 [5].

Additional file transfer modes besides these four modes may be issued in further versions of this Recommendation.

B.4.1 Basic Transfer Mode (BTM)

Basic transfer mode provides the user of a Group 4 equipment with a means to exchange files of any kind (binary files, wordprocessor native format documents, bitmaps, etc.) without any additional information.

B.4.2 Document Transfer Mode (DTM)

Document transfer mode provides the user of a Group 4 equipment with a means to exchange files of any kind with additional information readable by the user and included in a file description.

The file description is a structured information regarding the file (e.g. file name, file type, file coding, etc.). On the receiving side, it can either be handled by automatic processing or read by the user.

The file description is transmitted ahead of the data file itself and concatenated with this latter.

B.4.3 Binary file transfer (BFT)

Binary file transfer provides the user of a Group 4 equipment with a means to exchange files of any kind with additional information included in a file description and automatically processed at the receiving side.

The file description is a structured document which contains information regarding the file (e.g. file name, contents types, etc.). It is mainly aimed to be automatically processed at the receiving side.

The coding rules which apply for the coding of the file description are technically aligned on those of FTAM (coding according to Recommendation X.209 [2]).

The file description is transmitted ahead of the data file itself and concatenated with this latter.

For technical description of the binary file transfer, see Recommendation T.434 [3].

B.4.4 EDIFACT transfer

EDIFACT transfer provides the user of a Group 4 equipment with a means to exchange EDIFACT files coded according to ISO/IEC 9735 [4] rules

B.5 Coding of the file description

B.5.1 Basic Transfer Mode (BTM)

BTM mode does not require to transmit any additional information. Then, no file description exists. Only the file itself is sent.

B.5.2 Document Transfer Mode (DTM)

The character set which shall be used to code the file description is the primary set of graphic characters of Recommendation T.51 [6] plus character "SPACE" (this later in position 2/0 of the table).

NOTE 1 – This set is exactly the same one as that of *International Reference Alphabet* (Recommendation T.50 [I]) and that of the left part of characters set ISO 8859-9 [7].

Coding of the file description sent by a Group 4 equipment.

For details of the utility of the different fields of the file description listed below, see Recommendation F.551 [5].

CR FF 6.1	: ADDITIONAL INFORMATION:		
CR LF 1	:FILE NAME:		
CR LF		[file name]	(72 characters maximum)
CR LF 2	:APPLICATION REFERENCE:		
CR LF		[application reference]	(72 characters maximum)
CRLF 3	:TYPE:		
CR LF		[coding]	(72 characters maximum)
CR LF 4	:ENVIRONMENT:		
CR LF 4.1	:MACHINE:		
CR LF		[machine]	(72 characters maximum)
CR LF 4.2	:OPERATING SYSTEM:		
CR LF		[operating system]	(72 characters maximum)
CR LF 4.3	:PROGRAM:		
CR LF		[program]	(72 characters maximum)
CR LF 4.4	:CHARACTER SET:		
CR LF		[machine character set]	(72 characters maximum)

CR LF 5	:LAST REVISION:		
CR LF		[last revision]	(72 characters maximum)
CR LF 6	:LENGTH:		
CR LF		[file length]	(72 characters maximum)
CR LF 7	:PATH:		
CR LF		[path name]	(72 characters maximum)
CR LF 8	:RESERVED:		
CR LF		[reserved]	(72 characters maximum)
CR LF 9	:AUTHOR'S NAME:		
CR LF		[author's name]	(72 characters maximum)
CR LF 10	:USER VISIBLE STRING:		
CR LF 11	:FUTUR FILE LENGTH:		
CR LF		[futur file length]	(72 characters maximum)
CR LF 12	:STRUCTURE:		
CR LF		[structure]	(72 characters maximum)
CR LF 13	:PERMITTED ACTIONS:		
CR LF		[permitted actions]	(72 characters maximum)
CR LF 14	:LEGAL QUALIFICATIONS:		
CR LF		[legal qualification]	(72 characters maximum)
CR LF 15	:CREATION:		
CR LF		[date and time of creation]	(72 characters maximum)
CR LF 16	:LAST READ ACCESS:		
CR LF		[last read access]	(72 characters maximum)
CR LF 17	:IDENTITY OF THE LAST MODIFIER:		
CR LF		[identity of the last modifier]	(72 characters maximum)
CR LF 18	:IDENTITY OF THE LAST READER:		
CR LF		[identity of the last reader]	(72 characters maximum)
CR LF 19	:RECIPIENT:		
CR LF		[recipient]	(72 characters maximum)
CR LF 20	:TFT VERSION:		
CR LF		[TFT version]	(72 characters maximum)
CR LF 21	:COMPRESSED:		
CR LF		[compression]	(72 characters maximum)
CR LF			
CR LF			

NOTE 2 – When only one [ ] is used, this element is included in one line. When [[ ]] is used, this element can be included in several lines.

NOTE 3 – Further additional information fields may be added in next versions of Annex B. An equipment shall not be disturbed by unknown fields.

NOTE 4 – The file description must contain at least the following information:

CR LF 6.1 :ADDITIONAL INFORMATION:

CR LF 1 :FILE NAME:

CR LF [file name] (72 characters maximum)

CR LF

CR LF

B.5.3 Binary File Transfer (BFT)

The structure of the additional information to be transmitted is described in Recommendation T.434 [3].

B.5.4 EDIFACT transfer

To transfer EDIFACT files there is no need for a file description.

The structure of the information to be transmitted is described in the ISO/IEC 9735 specification [4].

B.6 Protocol aspects: ASN.1 definition of user data conveyed by session PDU

Abstract syntax definition of user data conveyed by session PDU applicable to Group 4 class 1 and encoding examples are described in this subclause. Each ASN.1 definition is composed of the Group 4 class I related parts which are defined in T.400-Series and T.500-Series Recommendations.

B.6.1 User data conveyed by SUD in CSS/RSSP

```
APDU                          ::= CHOICE {                                  -- see 8.2/T.433
                                  [4] IMPLICIT ApplicationCapabilities }

ApplicationCapabilities       ::= SET {                                     -- see 8.2/T.433
    documentApplicationProfile    [0] IMPLICIT OCTET STRING,
                                    -- '0206'H document application profile T.503 + File transfer function
    documentArchitectureClass     [1] IMPLICIT OCTET STRING
                                    -- '00'H FDA }
```

Example

A4 07 ApplicationCapabilities

80 02 02 06 documentApplicationProfile = T.503 + File transfer function

81 01 00 documentArchitectureClass = FDA

B.6.2 User data conveyed by SUD in CDCL/RDCLP

```
APDU                          ::= CHOICE {                                  -- see 8.2/T.433
                                  [4] IMPLICIT ApplicationCapabilities }

ApplicationCapabilities       ::= SET {                                     -- see 8.2/T.433
    documentApplicationProfile    [0] IMPLICIT OCTET STRING,
                                    -- '0206'H document application profile T.503 File transfer function
    documentArchitectureClass     [1] IMPLICIT OCTET STRING,
                                    -- '00'H FDA
    nonBasicDocCharacteristics    [2] IMPLICIT NonBasicDocCharacteristics OPTIONAL }
    nonBasicStrucCharacteristics  [3] IMPLICIT NonBasicStrucCharacteristics OPTIONAL }
    filetransferCapabilities      [10] IMPLICIT SET OF FileTransferCapabilities OPTIONAL }
    privateCapabilities           [11] IMPLICIT OCTET STRING OPTIONAL }

NonBasicDocCharacteristics    ::= SET {                                     -- see 5.6/T.415
    page-dimensions               [2] IMPLICIT SET OF Dimension-pair OPTIONAL,
    ra-gr-coding-attibutes        [3] IMPLICIT SET OF Ra-Gr-Coding-Attribute OPTIONAL,
    ra-gr-presentation-features   [4] IMPLICIT SET OF Ra-Gr-Presentation-Feature OPTIONAL }

FileTransferCapabilities      ::= INTEGER {
    bftCapabilities                   (0) ,
    transparentDataCapabilities       (1) ,
    dtmCapabilities                   (2) ,
    ediCapabilities                   (3) }
```

```
Dimension-pair              :: = SEQUENCE {                                  -- see 5.8/T.415
    horizontal                    [0] IMPLICIT INTEGER,
    vertical                      CHOICE {
       fixed                         [0] IMPLICIT INTEGER,
       variable                      [1] IMPLICIT INTEGER }}
                                  -- North American letter    = (10 200, 13 200 fixed or variable)
                                  -- ISO B4                   = (11 811, 16 677 fixed or variable)
                                  -- ISO A3                   = (14 030, 19 840 fixed or variable)
                                  -- Japanese legal           = (12 141, 17 196 fixed or variable)
                                  -- Japanese letter          = ( 8598, 12 141 fixed or variable)
                                  -- North American legal     = (10 200, 16 800 fixed or variable)
                                  -- North American ledger    = (13 200, 20 400 fixed or variable)
                                  -- ISO A4                   = ( 9920, 14 030 fixed or variable)
                 -- default value is ISO A4                   = ( 9920, 14 030 fixed)
                 -- basic value is ISO A4                     = ( 9920, 14 030 fixed or variable)

Ra-Gr-Coding-Attribute      :: = CHOICE {                                    -- see 8.4/T.417
    compression                   [0] IMPLICIT Compression }

Compression                 :: = INTEGER  { uncompressed (0),                -- see 8.3/T.417
                                            compressed (1) }
                 -- default and basic value is compressed (1)

Ra-Gr-Presentation-Feature  :: = CHOICE  {                                   -- see 8.4/T.417
    pel-transmission-density      [11] IMPLICIT Pel-Transmission-Density }

Pel-Transmission-Density    :: = INTEGER  { p6 (1),  -- 6 BMU (200pels/25.4mm)   -- see 8.2/T.417
                                            p5 (2),  -- 5 BMU (240pels/25.4mm)
                                            p4 (3),  -- 4 BMU (300pels/25.4mm)
                                            p3 (4),  -- 3 BMU (400pels/25.4mm) }
                 -- default and basic value is p6 (1)

Example
    A4 35    ApplicationCapabilities
       80 01 02 06   documentApplicationProfile = T.503 + File transfer function
       81 01 00      documentArchitectureClass = FDA
       AA 06         fileTransferCapabilities
                     80 01 00     bftCapabilities
                     80 01 02     dtmCapabilities
```

B.6.3 User data conveyed by SUD in CDS

```
S-ACTIVITY-START-user-data :: = CHOICE {                                     -- see 7.2.4.1.4/T.433
                                  [4] IMPLICIT DocumentCharacteristics }

DocumentsCharacteristics    :: = SET {                                       -- see 7.2.4.1.4/T.433
    documentApplicationProfile    [0] IMPLICIT OCTET STRING,
                                    -- '06'H File transfer function,
    documentArchitectureClass     [1] IMPLICIT OCTET STRING,
                                    -- '00'H FDA
    fileTransferCapabilities      [10] IMPLICIT FileTransferCapabilities OPTIONAL
                                    -- see B.6.2
                                     }

Example
    A4 0B    DocumentCharacteristics
       80 01 02 06   File transfer function
       81 01 00      documentArchitectureClass = FDA
       AA 03         fileTransferCapabilities
                     80 01 02     dtmCapabilities
```

B.6.4 Layout Object Descriptor (document layout root) conveyed by CSUI/CDUI in case of file transfer

This is not used for file transfer function.

B.6.5 Layout Object Descriptor (page) conveyed by CSUI/CDUI in case of file transfer

This is not used for file transfer function.

B.6.6 Data conveyed by CSUI/CDUI in case of file transfer

The segmented data of the file will be conveyed by means of CSUI/CDUI.

B.7 Communication concepts

B.7.1 General

A Group 4 facsimile may negotiate the capability to use the document application profile and the document architecture class within a session. This negotiation is accomplished with the CSS/RSSP and CDCL/RDCLP exchanges during the session establishment phase. However, only one type of document may be invoked at any given time during the document transfer phase. The negotiation and invocation are described below.

B.7.2 Negotiation

The application capabilities are negotiated as follows:

For CSS, RSSP the application capabilities indicated within the Session User Data (SUD) parameter shall only indicate which document application profile(s) and document architecture class(es) are available as receiving capabilities of the sender of the command/response.

For CDCL, the application capabilities indicated within the SUD should include a list of non-basic document characteristics that may be needed at the receiver by the sender of this command.

For RDCLP, the non-basic document characteristics available should be indicated. The non-basic document characteristics are conveyed in the SUD, using the application capabilities protocol element.

B.7.3 Invocation

For CDS/CDC, the document characteristics indicated within the SUD should include the non-basic or document characteristics or additional capabilities (e.g. file transfer) which are required for the document. The non-basic document characteristics or the additional capabilities are conveyed in the SUD, using the document characteristics protocol element. The document sender only sends documents or files which the sink has indicated it is capable of handling.

B.7.4 Data transfer

For file transfer, the document information is divided into segments such that the segment boundaries coincide with the minor synchronization points. Each segment consists of the divided data, the size of which is indicated by user.

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