INTERNATIONAL TELECOMMUNICATION UNION

**ITU-T**

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

**Amendment 1**
**T.433**
(08/95)

**TERMINALS FOR TELEMATIC SERVICES**

**DOCUMENT TRANSFER, ACCESS AND MANIPULATION (DTAM) – SERVICES AND PROTOCOLS – PROTOCOL SPECIFICATION**

**AMENDMENT 1: REVISIONS OF T.433 TO SUPPORT G4 COLOUR AND FILE TRANSFER**

**Amendment 1 to**
**ITU-T Recommendation T.433**

(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.433, 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.

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NOTE

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

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# SUMMARY

Recommendation T.433 currently defines the document bulk transfer of Group 4 Telefax documents as the DTAM transparent mode and of arbitrary documents and binary files in the DTAM normal mode. Amendment 1 provides for the transfer of binary files (based upon Recommendation T.434), and other formats, such as DTM, JPEG, EDIFACT and also Colour facsimile documents in the DTAM transparent mode. This amendment mainly concentrates on the amendments for the association establishment, where the relevant formats need to be recognized, and on the transfer phase, where segmenting must be extended to information that is not structured page by page.

**Amendment 1 to Recommendation T.433**

## REVISIONS OF T.433 TO SUPPORT G4
## COLOUR AND FILE TRANSFER

*(Geneva, 1995)*

# 1    Introduction

This contribution contains the revision of existing Recommendations T.433 in order to support colour and file transfer extension for G4 facsimile application.

# 2    Modification of Recommendation T.433

## 2.1    The second paragraph of 5.3.2 in Recommendation T.433 should be replaced by the following new paragraph

### 5.3.2    Functions of DTAM service-provider

....

2)   *DTAM capability*

The DTAM capability is defined by sets of parameters in order to specify the communication features:

*ODA application capabilities*

a)   document application profile;

b)   operational application profile;

c)   non-basic document characteristics;

d)   non-basic structural characteristics; and

e)   additional document characteristics, etc.

*File transfer capabilities*

a)   BFT capabilities;

b)   Transparent Data Capabilities;

c)   DTM capabilities;

d)   EDIFACT capabilities.

*Private capabilities*

......

## 2.2    The following new subclause should be added after 6.2.4.3.1.5 in Recommendation T.433

### 6.2.4.3.1.6    Additional document characteristics

The value of this parameter is any combination of additional document characteristics defined in Recommendation T.414.

**2.3      The following new subclause should replace 6.2.4.3.2 in Recommendation T.433**

**6.2.4.3.2  File transfer capabilities**

This parameter specifies file transfer capabilities which are available to the sender of this parameter as receiving capabilities. The parameter is present in both, the Transparent Mode and Normal Mode.

–     *BFT (Binary File Transfer) capabilities*

This value indicates the capability to receive files encoded to the specification of Recommendation T.434.

–     *Transparent data capabilities*

This value indicates that the sender is ready to accept (when acting as a receiver) data that are transferred completely transparently.

–     *DTM (Document Transfer Mode) capabilities*

This value indicates the capability to receive BFT files (defined in Recommendation T.434) encoded to the DTM encoding rules defined in Recommendation T.563.

–     *EDIFACT (electronic data exchange) capabilities*

This value indicates the capability to receive files encoded to the EDIFACT formats defined in ISO/IEC 9735.

**2.4      Insert new subclause 6.2.4.3.3**

**6.2.4.3.3  Private capabilities**

This parameter indicates capabilities for private values. DTAM-PM does not care the contents of this parameter. This parameter is only present in the Transparent Mode.

**2.5      The following new subclause should be added after 6.5.4.1.1.5 in Recommendation T.433**

**6.5.4.1.1.6      Additional document characteristics**

The value of this parameter is any combination of additional document characteristics defined in Recommendation T.414.

**2.6      The following new subclauses should replace 6.5.4.1.2 in Recommendation T.433**

**6.5.4.1.2  File transfer capabilities**

This parameter specifies file transfer capabilities which are available to the sender of this parameter as receiving capabilities. The parameter may be present in the Transparent Mode and Normal Mode.

**6.5.4.1.3  Private capabilities**

See 6.2.4.3.3.

**2.7      The following new paragraph should be inserted after the title 6.6.3.2 in Recommendation T.433**

The following procedure is applied to the transfer of G4 facsimile documents (according to Recommendation T.503) and to the transfer of files. The interchange data elements are to be interpreted in relationship with the T.503 document structure. In the case of file transfer, segmenting of the file will be carried out according to the length of the segment and the transfer procedure has to be applied accordingly to the segments of files as specified below for the interchange data elements.

## 2.8    Subclause 7.3.5.2 in Recommendation T.433 should be replaced by the following new subclause

### 7.3.5.2    Use of S-DATA request and indication primitive parameters

The document information is divided into segments such that the segment boundaries coincide with the minor synchronization points. Each segment consists of an integral number of interchange data elements, or in the case of file transfer, consists of the data which is subdivided into the segment of size indicated by the user. The interchange data elements of each segment are encoded using the Basic Encoding Rules defined in Recommendation X.209. The encoded interchange data elements of each segment are concatenated, forming an encoded segment.

## 2.9    Figure 3 should be replaced with  following new figure

```
S-ACTIVITY-START-user-data ::= CHOICE {
                              [4] IMPLICT DocumentCharacteristics }

DocumentCharacteristics  ::= SET {
documentApplicationProfile  ::= CHOICE {
                              [0] IMPLICIT OCTET STRING,
                              -- '01' H Non-DocumentApplicationProfile
                              -- '02' H DocumentApplicationProfile T.503
                              -- '03' H DocumentApplicationProfile T.501
                              -- Other values are assigned by Recommendation T.563
                              [4] IMPLICIT SET OF OBJECT IDENTIFIER },
documentArchitectureClass     [1] IMPLICIT OCTET STRING OPTIONAL,
                              -- '00' H means FDA
nonBasicDocumentCharacteristics  [2] IMPLICIT NonBasicDocumentCharacteristics
                                                OPTIONAL,
nonBasicStructuralCharacteristics  [3] IMPLICIT NonBasicStructuralCharacteristics
                                                OPTIONAL,
fileTransferCapabilities      [10] IMPLICIT FileTransferCapabilities
                                                OPTIONAL }

NonBasicDocumentCharacteristics  ::= SET {
    commentsCharacterSets     [1] IMPLICIT OCTET STRING OPTIONAL,
                              -- string of escape sequences
    pageDimensions            [2] IMPLICIT SET OF Dimension-Pair      OPTIONAL,
    ra-gr-coding-attributes   [3] IMPLICIT SET OF Ra-Gr-Coding-Attribute
                                                        OPTIONAL,
                              -- Ra-Gr-Coding-Attribute is defined in
                              -- Recommendation T.415
    ra-gr-presentation-features  [4] IMPLICIT SET OF
                              Ra-Gr-Presentation-Features OPTIONAL
                              -- Ra-Gr-Presentation-Features is defined in
                              -- Recommendation T.415

NonBasicStructuralCharacteristics  ::= SET {
    numberOfObjectPerPage     [0] IMPLICIT INTEGER OPTIONAL }
```

FIGURE 3/T.433

**User data in S-ACTIVITY-START/RESUME**

## 2.10 Modules to be imported in DTAM APDU defined in 8.1 should be replaced by the following new modules

IMPORTS
*-- ODA --*
DocumentProfileDescriptor, LayoutClassDescriptor, TextUnit,
LogicalClassDescriptor, LogicalObjectDescriptor, LayoutStyleDescriptor,
DocumentApplicationProfile, NonBasicDocCharacteristics,
NonBasicStrucCharacteristics, AdditionalDocCharacteristics

FROM Interchange-Data-Elements{ joint-iso-ccitt 8 1 5 5 }

## 2.11 Abstract syntax definition of ApplicationCapabilities used in DTAM normal mode should be replaced by the following new definition

```
ApplicationCapabilities                    ::= CHOICE {
oDAApplicationCapabilities                 [0] IMPLICIT SET {
      oDADocumentApplicationProfile        [0] IMPLICIT OBJECT IDENTIFIER,
      nonBasicODADocumentCharacteristics   [1] NonBasicDocCharacteristics OPTIONAL,
      nonBasicODAStructuralCharacteristics [2] NonBasicStrucCharacteristics OPTIONAL,
      operationalApplicationProfile        [3] IMPLICIT SET OF OBJECT IDENTIFIER
                                           OPTIONAL
      additionalDocCharacteristics         [4] IMPLICIT AdditionalDocCharacteristics
                                           OPTIONAL,
                                           }
fileTransferCapabilities                   [1] IMPLICIT INTEGER {
                                                 bftCapabilities              (0),
                                                 transparentDataCapabilities  (1),
                                                 dtmCapabilities              (2),
                                                 ediCapabilities              (3)
                                           }
                                           }
```

## 2.12 Subclause 8.2 should be replaced by the following new subclause

## 8.2 Abstract syntax definition of APDUs for use of the session service in Transparent Mode

This abstract syntax is described by the notation of ASN.1 defined in the Recommendation X.208.

```
[1] D-INITIATE-REQ ::= CHOICE {
                       [4] IMPLICIT ApplicationCapabilities }

ApplicationCapabilities      ::= SET {
      documentApplicationProfileT73   [0] IMPLICIT OCTET STRING OPTIONAL,
                                      -- '01' H Non-DocumentApplicationProfile
                                      -- '02' H DocumentApplicationProfile T.503
                                      -- '03' H DocumentApplicationProfile T.501
                                      -- Other values are assigned by Recommendation T.563

      documentArchitectureClass       [1] IMPLICIT OCTET STRING OPTIONAL }
                                      -- '00'H means FDA

[2] D-INITIATE-RES ::= CHOICE {
                       [4] IMPLICIT ApplicationCapabilities }

ApplicationCapabilities   ::= SET {
      documentApplicationProfileT73   [0] IMPLICIT OCTET STRING OPTIONAL,
                                      -- '01' H Non-DocumentApplicationProfile
                                      -- '02' H DocumentApplicationProfile T.503
                                      -- '03' H DocumentApplicationProfile T.501
                                      -- Other values are assigned by Recommendation T.563

      documentArchitectureClass       [1] IMPLICIT OCTET STRING OPTIONAL }
                                      -- '00'H means FDA
```

**[3] D-CAPABILITY-REQ ::= CHOICE {**

                                **[4] IMPLICIT ApplicationCapabilities }**

**ApplicationCapabilities ::= SET {**

| | |
|---|---|
| documentApplicationProfileT73 | [0] IMPLICIT OCTET STRING OPTIONAL, |
| documentArchitectureClass | [1] IMPLICIT OCTET STRING OPTIONAL, |
| nonBasicDocCharacteristics | [2] IMPLICIT NonBasicDocCharacteristics OPTIONAL, |
| nonBasicStrucCharacteristics | [3] IMPLICIT NonBasicStrucCharacteristics OPTIONAL, |
| additionalDocCharacteristics | [9] IMPLICIT AdditionalDocCharacteristics OPTIONAL, |
| fileTransferCapabilities | [10] IMPLICIT SET OF FileTransferCapabilities OPTIONAL, |
| privateCapabilities | [11] IMPLICIT OCTET STRING OPTIONAL } |

*-- "NonBasicDocCharacteristics", "NonBasicStrucCharacteristics" and*

*-- "AdditionalDocCharacteristics" are imported from Recommendation T.415*

**[4] D-CAPABILITY-RES ::= CHOICE {**

                                **[4] IMPLICIT ApplicationCapabilities }**

**ApplicationCapabilities ::= SET {**

| | |
|---|---|
| documentApplicationProfileT73 | [0] IMPLICIT OCTET STRING OPTIONAL, |
| documentArchitectureClass | [1] IMPLICIT OCTET STRING OPTIONAL, |
| nonBasicDocCharacteristics | [2] IMPLICIT NonBasicDocCharacteristics OPTIONAL, |
| nonBasicStrucCharacteristics | [3] IMPLICIT NonBasicStrucCharacteristics OPTIONAL, |
| additionalDocCharacteristics | [9] IMPLICIT AdditionalDocCharacteristics OPTIONAL, |
| fileTransferCapabilities | [10] IMPLICIT SET OF FileTransferCapabilities OPTIONAL, |
| privateCapabilities | [11] IMPLICIT OCTET STRING OPTIONAL } |

**FileTransferCapabilities ::= INTEGER {**

| | |
|---|---|
| bftCapabilities | (0), |
| transparentDataCapability | (1), |
| dtmCapabilities | (2), |
| ediCapabilites | (3) } |