



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

T.434

(04/99)

SERIES T: TERMINALS FOR TELEMATIC SERVICES

Binary file transfer format for the telematic services

ITU-T Recommendation T.434

(Previously CCITT Recommendation)



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**ITU-T T-SERIES RECOMMENDATIONS
TERMINALS FOR TELEMATIC SERVICES**

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ITU-T RECOMMENDATION T.434

BINARY FILE TRANSFER FORMAT FOR THE TELEMATIC SERVICES

Summary

This Recommendation is one of the Recommendations of the T.430-Series Document Transfer and Manipulation (DTAM) that contain the protocol definitions and service descriptions used in the transfer of documents and data in the telematic services.

Source

ITU-T Recommendation T.434 was revised by ITU-T Study Group 8 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on 1 April 1999.

FOREWORD

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The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation the term *recognized operating agency (ROA)* includes any individual, company, corporation or governmental organization that operates a public correspondence service. The terms *Administration*, *ROA* and *public correspondence* are defined in the *Constitution of the ITU (Geneva, 1992)*.

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As of the date of approval of this Recommendation, the ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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BINARY FILE TRANSFER FORMAT FOR THE TELEMATIC SERVICES

(revised in 1999)

1 Scope

This Recommendation defines the binary file transfer format which is intended for the transfer of data in the telematic services, including Facsimile Group 3 and Group 4, DTAM and message handling.

2 Normative references

References are contained in Recommendation T.431.

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

- ISO 8601:1988, *Data elements and interchange formats – Information interchange – Representation of dates and times*.
- ISO 8571-2:1988, *Information processing systems – Open Systems Interconnection – File Transfer, Access and Management – Part 2: Virtual Filestore Definition*.
- ISO 8571-4:1988, *Information processing systems – Open Systems Interconnection – File Transfer, Access and Management – Part 4: File Protocol Specification*.
- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation*.

RFC 2046, *Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types*

3 Definitions

For the purposes of this Recommendation, the following definitions apply.

- 3.1 attribute:** A piece of information stating a property of something, taking one of a set of defined values, each value having a defined meaning.
- 3.2 binary file (data):** A sequence of octets, representing a binary file and optional attributes, formed, using the coding rules in Appendix I.
- 3.3 file attributes:** The name and other identifiable properties of a file.

4 General concept

Binary File Transfer (BFT) describes the semantics and syntax necessary to represent a data file in order to transfer it through the protocols of various telematic services, such as Facsimile Group 3 and Group 4, DTAM normal mode and message handling.

The following clauses describe the attributes of a data file.



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5 BFT file attributes

For the BFT, the following attributes (see Table 1) are defined. All of the attributes are optional. They are described using ASN.1.

All attributes are optional except for protocol version, which is defaultable.

A BINARY DATA message consists of a sequence of these attributes which include the file data itself and is defined as follows.

BINARY-DATA-Message ::= [APPLICATION 23] IMPLICIT SEQUENCE OF
{SEQUENCE { [...list of attributes...] } }

Table 1/T.434 – File attributes

Attribute name
protocol version
Filename
permitted actions
contents type
storage account
date and time of creation
date and time of last modification
date and time of last read access
identity of creator
identity of last modifier
identity of last reader
Filesize
future filesize
access control
legal qualifications
private use
Structure
application reference
Machine
operating system
Recipient
character set
Compression
Environment
Pathname
store-and-forward
user visible string
file retrieval
MIME media type
data file content

The following subclauses contain the syntax for each attribute.

5.1 File name syntax

The file name is a sequence of name components. Each component is a value of type UTF8String.

When more than one element is encoded, the first element shall be the file name and the remaining elements shall be concatenated to represent the file name prefix.

filename [0] IMPLICIT Filename-Attribute OPTIONAL,
Filename-Attribute ::= SEQUENCE OF UTF8String

5.2 Permitted actions syntax

The permitted actions attribute indicates the set of actions that can be performed on the file.

permitted-actions [1] IMPLICIT Permitted-Actions-Attribute OPTIONAL,
Permitted-Actions-Attribute ::= BIT STRING
-- Actions available :

read (0),
insert (1),
replace (2),
extend (3),
erase (4) } (size (5..5))

5.3 Contents type syntax

The contents type attribute indicates the abstract data types of the contents of the file and the structuring information which is necessary if the complete file structure and semantics are to be maintained during the transfer of the file.

The value is either a document name (possibly with parameters in a single value of any type) or a pair of abstract syntax name and constraint set name. Each of these names are values of the type OBJECT IDENTIFIER.

contents-type [2] Contents Type Attribute OPTIONAL,
Contents-Type-attribute ::= SEQUENCE{
document-type-name [1] OBJECT IDENTIFIER
parameter [0] ANY OPTIONAL}

-- The actual types to be used for values of the parameter
-- field are defined in the identified or named document type.
-- Currently, only UNSTRUCTURED TEXT and OBJECT IDENTIFIER
-- are supported. OBJECT IDENTIFIER is the default value.

NOTE – The document-type-name of the Contents-Type-Attribute should be specified using the default value of UNSTRUCTURED BINARY in cases where the application-reference is being used for further identification of file contents. The object identifier for unstructured-binary is: { iso (0) standard (40) 8571 (8571) document-type (5) unstructured-binary (3) }.

5.4 Storage account syntax

The storage account attribute identifies the accountable authority responsible for accumulated file storage charges. The value of the storage account attribute is of type UTF8String.

storage-account [3] IMPLICIT UTF8String OPTIONAL,

5.5 Date and time syntax

The date and time of creation attribute indicates when the file was created. The value of the attribute is of type GeneralizedTime.

The date and time of last modification attribute indicates when the contents of the file were last modified. The value of the attribute is of type GeneralizedTime. For a newly created file, the value is equal to the value of the date and time of creation attribute.

