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Information technology — Text Communication — Message-Oriented Text Interchange Systems (MOTIS) —

Part 4: Message Transfer System: Abstract Service Definition and Procedures

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*Technologies de l'information — Communication de texte — Systèmes d'échange
de texte en mode message*

*Partie 4: Système de transfert de message: Procédures et définition de service
abstrait*



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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 10021-4 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

ISO/IEC 10021-4 consists of the following parts, under the general title: *Information technology — Text Communication — Message-Oriented Text Interchange Systems (MOTIS)* —

iTeh STANDARD PREVIEW

- Part 1: System and Service Overview
- Part 2: Overall Architecture
- Part 3: Abstract Service Definition Conventions
- Part 4: Message Transfer System: Abstract Service Definition and Procedures
- Part 5: Message Store: Abstract Service Definition
- Part 6: Protocol Specifications
- Part 7: Interpersonal Messaging System

Annex A forms an integral part of this part of ISO/IEC 10021. Annexes B, C and D are for information only.

Introduction

This part of ISO/IEC 10021 is one of a number of parts of ISO/IEC 10021 (the International Standards for Message-Oriented Text Interchange Systems (MOTIS)).

MOTIS provides for the exchange of messages between users on a store-and-forward basis. A message submitted by one user (the *originator*) is transferred through the Message Transfer System (MTS) and delivered to one or more other users (the *recipients*).

The MTS comprises a number of message-transfer-agents (MTAs), which transfer messages and deliver them to their intended recipients.

This International Standard was developed jointly by CCITT and ISO/IEC. The equivalent CCITT document is CCITT Recommendation X.411.

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**Information technology - Text Communication -
Message-Oriented Text Interchange Systems (MOTIS) -
Part 4 : Message Transfer System: Abstract Service Definition and
Procedures**

Section one - Introduction

1 Scope

This part of ISO/IEC 10021 defines the abstract-service provided by the MTS (the MTS Abstract Service), and specifies the procedures to be performed by MTAs to ensure the correct distributed operation of the MTS.

ISO/IEC 10021-2 identifies the other International Standards which define other aspects of Message Handling Systems.

Access to the MTS Abstract Service defined in this part of ISO/IEC 10021 may be provided by the MTS Access Protocol (P3) defined in ISO/IEC 10021-6. The distributed operation of the MTS defined in this part of ISO/IEC 10021 may be provided by the use of the MTS Transfer Protocol (P1) also defined in ISO/IEC 10021-6.

Section two of this part of ISO/IEC 10021 defines the MTS Abstract Service. Clause 6 describes the Message Transfer System Model. Clause 7 provides an overview of the MTS Abstract Service. Clause 8 defines the semantics of the parameters of the MTS Abstract Service. Clause 9 defines the abstract-syntax of the MTS Abstract Service.

Section three of this part of ISO/IEC 10021 defines the MTA Abstract Service. Clause 10 refines the model of the MTS, first presented in clause 6, to show that the MTS comprises a number of MTAs that interwork with one another to provide the MTS Abstract Service. Clause 11 provides an overview of the MTA Abstract Service. Clause 12 defines the semantics of the parameters of the MTA Abstract Service. Clause 13 defines the abstract-syntax of the MTA Abstract Service.

Section four of this part of ISO/IEC 10021 specifies the procedures performed by MTAs to ensure the correct distributed operation of the MTS.

Annex A provides a reference definition of the MTS object identifiers cited in the ASN.1 modules in the body of this part of ISO/IEC 10021.

Annex B provides a reference definition of the upper bounds of the size constraints imposed upon variable length data types defined in ASN.1 modules in CCITT Recommendation X.411.

Annex C identifies the technical differences between the ISO/IEC and CCITT versions of CCITT Recommendation X.411 and this part of ISO/IEC 10021.

Annex D provides an index to this part of ISO/IEC 10021, categorised into: definitions of the MTS parameters; Abbreviations; Terms; ASN.1 modules; ASN.1 macros; ASN.1 types; and ASN.1 values.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 10021. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO/IEC 10021 are

encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of ISO and IEC maintain registers of currently valid International Standards.

2.1 Open Systems Interconnection

This part of ISO/IEC 10021 cites the following OSI specifications:

ISO 8824:1990, *Information processing systems - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1).*

2.2 Message Handling Systems

This part of ISO/IEC 10021 cites the following Message Handling System specifications:

ISO/IEC 10021:1990, *Information technology - Text communication - Message-Oriented Text Interchange Systems (MOTIS) -*

Part 1: Service and system overview.

Part 2: Overall architecture.

Part 3: Abstract service definition conventions.

Part 5: Message store : Abstract service definition.

Part 6: Protocol specifications.

Part 7: Interpersonal messaging system.

CCITT X.408:1988, *Message handling systems: Encoded information type conversion rules.*

2.3 Directory Systems

This part of ISO/IEC 10021 cites the following Directory System specifications:

ISO/IEC 9594:1990, *Information technology - Open Systems Interconnection - The Directory*

Part 1: Overview of concepts, models, and services.

Part 2: Models.

Part 3: Abstract service definition.

Part 4: Procedures for distributed operation.

Part 5: Protocol specifications.

Part 6: Selected attribute types.

Part 7: Selected object classes.

Part 8: Authentication framework.

2.4 Country Codes

This part of ISO/IEC 10021 cites the following Country Code specification:

ISO 3166:1988, *Codes for the representation of names of countries.*

3 Definitions

For the purposes of this part of ISO/IEC 10021 the definitions given in ISO/IEC 10021-2 apply.

4 Abbreviations

For the purposes of this part of ISO/IEC 10021 the abbreviations given in ISO/IEC 10021-2 apply.

5 Conventions

This International Standard uses the descriptive conventions described below.

5.1 Terms

Throughout this part of ISO/IEC 10021 the words of defined terms and the names and values of the parameters of the MTS Abstract Service and the MTA Abstract Service, unless they are proper names, begin with a lower-case letter and are linked by a hyphen thus: defined-term. Proper names begin with an upper-case letter and are not linked by a hyphen thus: Proper Name. In clauses 8 and 12, the names and values of the parameters of the MTS Abstract Service and the MTA Abstract Service are printed in **bold**.

<https://standards.iteh.ai/catalog/standards/sist/b8f2700d-75e4-42c7-a76d-be298db74e74/iso-iec-10021-4-1990>

5.2 Presence of Parameters

In the tables of parameters in clauses 8 and 12, the presence of each parameter is qualified as follows:

Mandatory (M): A mandatory parameter shall always be present.

Optional (O): An optional argument shall be present at the discretion of the invoker of the abstract-operation; an optional result shall be present at the discretion of the performer of the abstract-operation.

Conditional (C): A conditional parameter shall be present as defined by this International Standard.

Where a conditional parameter shall be present due to some action on the message, probe or report by the MTS, this is explicitly defined. The presence of other conditional parameters is dependent on the presence of those parameters in other abstract-operations (for example, the presence of a conditional argument of the Message-transfer abstract-operation is dependent on the presence of the same optional argument in the related Message-submission abstract-operation).

5.3 Abstract Syntax Definitions

This part of ISO/IEC 10021 defines the abstract-syntax of the MTS Abstract Service and the MTA Abstract Service using the abstract syntax notation (ASN.1) defined in ISO 8824, and the abstract service definition conventions defined in ISO/IEC 10021-3.