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**Information technology — Text
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Interchange Systems (MOTIS) —**

Part 5: Message Store: Abstract Service Definition
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*Technologies de l'information — Communication de texte — Système
d'échange de texte en mode message (MOTIS) —*

Partie 5: Dépôt de messages: Définition de service abstrait



Reference number
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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 10021-5 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 18, *Document processing and related communication*.

This second edition cancels and replaces the first edition (ISO/IEC 10021-5:1990), which has been technically revised.

This second edition consolidates Technical Corrigenda 1, 2, 3, 4, 5, 6, 7 and 8.

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

- *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*
- *Part 8: Electronic Data Interchange Messaging Service*
- *Part 9: Electronic Data Interchange Messaging System*

Annexes A to F form an integral part of this part of ISO/IEC 10021. Annexes G to J are for information only.

Introduction

This part of ISO/IEC 10021 is one of a number of parts of ISO/IEC 10021 defining Message Handling in a distributed open systems environment.

Message Handling 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).

This part of ISO/IEC 10021 defines the Message Store abstract-service (MS abstract-service) which supports message-retrieval from a Message Store (MS) and message-submission through the MS in a Message Handling System (MHS). The MS abstract-service also provides message-administration services, as defined by the Message Transfer System (MTS) abstract-service.

This part of ISO/IEC 10021 has been produced by joint ITU-T - ISO/IEC agreement. The corresponding ITU-T Recommendation is X.413 (¹). Annex J lists the differences between the two documents.

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

Part 5:

Message Store: Abstract Service Definition

Section 1 - General

1 Scope

This part of ISO/IEC 10021 defines the Message Store abstract-service. This abstract-service is provided by the Message Store access protocol (specified in ISO/IEC 10021-6) in conjunction with the MTS abstract-service (defined in ISO/IEC 10021-4), together with the Remote Operations Service Element (ROSE) services (defined in ISO/IEC 9072-1). The abstract-syntax for the application-layer protocols used in this part of ISO/IEC 10021 is defined in ISO/IEC 8824-1.

Other parts of ISO/IEC 10021 define other aspects of the MHS. ISO/IEC 10021-1 defines the user-oriented services provided by the MHS. ISO/IEC 10021-2 provides an architectural overview of the MHS. ISO/IEC 10021-7 defines the abstract-service for Interpersonal Messaging and defines the format of Interpersonal Messages.

Section 2 of this part of ISO/IEC 10021 contains the Message Store abstract-service definition. Clause 6 describes the MS model. Clause 7 defines the semantics and abstract-syntax of the MS-bind and the MS-unbind abstract-operations. Clause 8 defines the semantics and abstract-syntax of the operations of the MS abstract-service. Clause 9 defines the semantics and abstract-syntax of the errors of the abstract-service.

Section 3 of this part of ISO/IEC 10021 defines the general-attribute-types, general-matching-rules, and general-auto-action-types related to the MS. Clause 10 contains an overview. Clause 11 defines the semantics and abstract-syntax of the general-attribute-types. Clause 12 defines the semantics and abstract-syntax of the general-matching-rules. Clause 13 defines the semantics and abstract-syntax of the general-auto-action-types.

Section 4 of this part of ISO/IEC 10021 describes the procedures for Message Store and the ports realization. Clause 14 contains an overview. Clause 15 describes how the Message Transfer System abstract-service is consumed. Clause 16 describes how the Message Store abstract-service is supplied. Clause 17 describes how the MS ports are realized.

The requirements for conformance to this part of ISO/IEC 10021 are stated in clause 10 of ISO/IEC 10021-6.

2 Normative references

The following International 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 edition of the Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

2.1 Reference Model references

This part of ISO/IEC 10021 cites the following Reference Model specification:

ISO/IEC 7498:1984, *Information processing systems - Open Systems Interconnection - Basic Reference Model.*

2.2 Presentation references

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

ISO/IEC 8824-1: ¹⁾, *Information technology - Open Systems Interconnection - Abstract Syntax Notation One (ASN.1): Specification of Basic Notation.*

ISO/IEC 8824-2: ¹⁾, *Information technology - Open Systems Interconnection - Abstract Syntax Notation One (ASN.1): Information Object Specification.*

ISO/IEC 8824-3: ¹⁾, *Information technology - Open Systems Interconnection - Abstract Syntax Notation One (ASN.1): Constraint Specification.*

ISO/IEC 8825-1: ¹⁾, *Information technology - Open Systems Interconnection - Specification of ASN.1 Encoding Rules: Basic Encoding Rules (BER).*

2.3 Remote Operations references

This part of ISO/IEC 10021 cites the following Remote Operations specification:

ISO/IEC 13712-1: ¹⁾, *Information technology - Remote Operations: Concepts, model and notation.*

<https://standards.iteh.ai/catalog/standards/sist/46a64073-b55c-4e45-a12d-3c4e53ac65a0/iso-iec-10021-5-1994>

2.4 Directory references

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

ISO/IEC 9594-2: ¹⁾, *Information technology—Open Systems Interconnection—The Directory: Models.*

ISO/IEC 9594-6: ¹⁾, *Information technology—Open Systems Interconnection—The Directory: Selected Attribute Types.*

ISO/IEC 9594-8: ¹⁾, *Information technology—Open Systems Interconnection—The Directory: Authentication Framework.*

2.5 Message Handling references

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

ISO/IEC 10021-1:1990, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 1: System and service overview.*

ISO/IEC 10021-1/Amd.1:1994, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 1: System and service overview - Amendment 1: Message Store Extensions.*

¹⁾ To be published.

- ISO/IEC 10021-2:1990, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 2: Overall Architecture.*
- ISO/IEC 10021-2/Amd.1:1994, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 2: Overall Architecture - Amendment 1: Representation of O/R addresses for human exchange.*
- ISO/IEC 10021-2/Amd.2:1994, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 2: Overall Architecture - Amendment 2: Minor Enhancements - Multinational organizations and terminal-form addresses.*
- ISO/IEC 10021-2/Amd.3:¹⁾ *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 2: Overall Architecture - Amendment 3.*
- ISO/IEC 10021-4:1990, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 4: Message Transfer System: Abstract Service Definition and Procedures.*
- ISO/IEC 10021-4/Amd.1:1994, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 4: Message Transfer System: Abstract Service Definition and Procedures - Amendment 1: Minor Enhancements: Notification type and Directory substitution.*
- ISO/IEC 10021-4/Amd.2:¹⁾ *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 4: Message Transfer System: Abstract Service Definition and Procedures - Amendment 2: ASN.1 and P3 extensions.*
- ISO/IEC 10021-6:1990, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 6: Protocol Specifications.*
- ISO/IEC 10021-6/Amd.1:1994, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 6: Protocol Specifications - Amendment 1: Message Store Extensions.*
- ISO/IEC 10021-7:1990, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 7: Interpersonal messaging system.*
- ISO/IEC 10021-7/Amd.1:1994, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 7: Interpersonal messaging system - Amendment 1: Minor Enhancements: File transfer body part and auto-submission indication.*
- ISO/IEC 10021-7/Amd.2:¹⁾ *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 7: Interpersonal messaging system - Amendment 2: Voice body part and new ASN.1.*
- ISO/IEC 10021-7/Amd.3:1994, *Information technology—Text Communication - Message Oriented Text Interchange Systems (MOTIS) - Part 7: Interpersonal messaging system - Amendment 3: Message Store Extensions.*

3 Definitions

3.1 Common Definitions for MHS

For a list of the common definitions for MHS refer to ISO/IEC 10021-2.

¹⁾ To be published.

3.2 Message Store Definitions

For the purposes of this part of ISO/IEC 10021 the following definitions apply:

- 3.2.1 abstract-association:** An abstract binding between two communication partners. In this part of ISO/IEC 10021, the binding between an MS-user and an MS for the provision of the MS abstract-service, or between an MS and the MTS for the provision of the MTS abstract-service.
- 3.2.2 Administration Port:** A port which supports the administration services (of the MTS) within the MS abstract-service.
- 3.2.3 Alert abstract-operation:** An abstract-operation which enables the MS to inform the MS-user that a message or report has been delivered to the MS. May be issued only over an existing abstract-association.
- 3.2.4 attribute:** The information of a particular type appearing in an entry.
- 3.2.5 attribute-type:** That component of an attribute which indicates the class of information given by that attribute.
- 3.2.6 attribute-value:** A particular instance of the class of information indicated by an attribute type.
- 3.2.7 attribute-value-assertion:** A proposition, which may be *true*, *false*, or *undefined*, concerning the values of an attribute in an entry.
- 3.2.8 auto-action:** Actions that are performed automatically by the MS according to instructions previously registered by the MS-user.
- 3.2.9 Auto-action-log:** An entry-class which contains entries that record the performance of certain auto-actions by the MS.
- 3.2.10 auto-action-event:** An entry of the Auto-action-log entry-class which represents an auto-action execution.
- 3.2.11 auto-action-type:** The type of an auto-action, e.g., Auto-alert.
- 3.2.12 Auto-alert:** An auto-action which alerts the MS-user when a message or report is delivered.
- 3.2.13 Auto-correlate-reports:** An auto-action which correlates delivery reports with the originally submitted messages or probes to which they are related.
- 3.2.14 Auto-delete:** An auto-action that deletes messages whose storage period has expired.
- 3.2.15 Auto-forward:** A class of auto-actions which causes the MS to forward a delivered message to one or more recipients. As the definition of Auto-forward is content-specific, it is not defined in this part of ISO/IEC 10021. Rather, each type of Auto-forward auto-action is defined in the Specification for the content-type concerned.
- 3.2.16 Auto-modify:** An auto-action which applies modifications to the attributes of newly created entries.
- 3.2.17 child-entry:** An entry immediately subordinate to another entry (its parent-entry) in a tree-structured relationship. An entry which is not a child-entry is a main-entry.
- 3.2.18 child-sequence-number:** A sequence-number in a parent-entry pointing to a child-entry. A parent-entry has one value of child-sequence-number for each child-entry it possesses.
- 3.2.19 constraining set:** An information object set used to constrain the values of related components within a Set or Sequence. See ISO/IEC 8824-3.
- 3.2.20 content-specific:** Describes a specification or action whose effect depends on the content-type of the message being handled.

- 3.2.21 creation-time:** An attribute which records the date and time at which the entry was created by the MS.
- 3.2.22 Delete abstract-operation:** An abstract-operation used to delete one or more entries of a specified entry-class.
- 3.2.23 delivered-EITs:** A multi-valued attribute which indicates the encoded-information-types present in the content of a delivered-message.
- 3.2.24 delivered-message:** An entry of the Delivery or Delivery-log entry-classes which represents a delivered-message.
- 3.2.25 delivered-report:** An entry of the Delivery or Delivery-log entry-classes which represents a delivered-report.
- 3.2.26 Delivery:** An entry-class which contains entries that represent messages and reports delivered by the MTS to the MS.
- 3.2.27 Delivery-log:** An entry-class which contains entries that provide, for logging purposes, a restricted representation of messages and reports delivered by the MTS to the MS.
- 3.2.28 Draft:** An entry-class which contains draft-message entries.
- 3.2.29 draft-message:** An entry of the Draft entry-class which represents a message not yet submitted to the MTS.
- 3.2.30 entry:** An information object stored in the MS. See 3.2.17, 3.2.45, and 3.2.61 for further classification of entries.
- 3.2.31 entry-class:** A category of entry which represents a particular type of information object. The principal entry-classes are the Stored-message, the Message-log and the Auto-action-log entry-classes.
- 3.2.32 entry-information:** A parameter, used in abstract-operations, which conveys selected information from an entry.
- 3.2.33 entry-information-selection:** A parameter, used in abstract-operations, which indicates what information from an entry is being requested.
- 3.2.34 entry-type:** An attribute which indicates whether an entry contains a delivered-message, a delivered-report, a returned-content, a submitted-message, a submitted-probe, a draft-message or an auto-action-event entry.
- 3.2.35 Fetch abstract-operation:** An abstract-operation which allows an unrestricted set of attribute information for one selected entry of a specified entry-class to be fetched from the MS by the MS-user.
- 3.2.36 fetch-restrictions:** Restrictions, imposed by the MS-user, on the type of information it is prepared to receive as a result of Fetch. The possible restrictions are on attribute-length, content-types and encoded information types.
- 3.2.37 filter:** A parameter, used in abstract-operations, which applies a test to a particular entry and is either satisfied or not by that entry.
- 3.2.38 filter-item:** An assertion about the presence or value(s) of an attribute of a particular type in an entry under test. Each such assertion is either *true*, *false*, or *undefined*.
- 3.2.39 forwarding-request:** A parameter that may be present in the argument of the MS-message-submission abstract-operation, invoked by the MS-user, to request that a stored message is forwarded from the MS.
- 3.2.40 general-attribute:** An attribute which is valid for all types of messages and reports, independent of content-type. Only attributes of this type are defined in this part of ISO/IEC 10021.
- 3.2.41 general-auto-actions:** An auto-action which is valid for all types of messages and reports, independent of content-type. Only auto-actions of this type are defined in this part of ISO/IEC 10021.
- 3.2.42 grade:** Defined in 5.2 of ISO/IEC 10021-2.