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X.413

Corrigendum 1

(08/97)

SERIES X: DATA NETWORKS AND OPEN SYSTEM COMMUNICATION

Message Handling Systems

Information technology – Message Handling Systems (MHS) – Message store: Abstract service definition

Technical Corrigendum 1

ITU-T Recommendation X.413 – Corrigendum 1

(Previously CCITT Recommendation)

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INTERNATIONAL STANDARD 10021-5

ITU-T RECOMMENDATION X.413

INFORMATION TECHNOLOGY – MESSAGE HANDLING SYSTEMS (MHS) – MESSAGE STORE: ABSTRACT SERVICE DEFINITION

TECHNICAL CORRIGENDUM 1

Source

The ITU-T Recommendation X.413, Corrigendum 1 was approved on the 9th of August 1997. The identical text is also published as ISO/IEC International Standard 10021-5.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the 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.

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 expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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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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INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – MESSAGE HANDLING SYSTEMS (MHS) – MESSAGE STORE: ABSTRACT SERVICE DEFINITION

TECHNICAL CORRIGENDUM 1

1) New subclause 5.8

Add a new subclause as follows:

5.8 ASN.1 Packed Encoding Rules

Although the abstract syntax in this Service Definition contains extension markers, it has not been verified that these are present in all instances that would be required before Packed Encoding Rules could safely be used.

2) New subclause 5.9

Add a new subclause as follows:

5.9 Interpretation of UTC Time values

Dates and times in the MHS protocols are represented using the ASN.1 *UTCTime* type which uses only two decimal digits to represent the year, leaving the century unspecified. Since MHS systems must deal with dates both in the past (e.g. submission times of old messages which may be held in local storage or forwarded) and in the future (expiry time, deferred delivery time), it is important to observe a standard convention to avoid inaccurate display or malfunction of the MHS when dates from different centuries are compared.

The two decimal digits give 100 different years that can be expressed; an implementation has to associate each of these values with a particular century. The chosen convention is that dates up to ten years prior to the current time and up to forty years ahead of the current time should be associated with the corresponding century, with the interpretation of the remaining 49 values being implementation dependent. For example, for a system operating in 1996 the values “86” to “99” are interpreted as 1986 to 1999 and the values “00” to “36” are interpreted as 2000 to 2036, and the values “37” to “85” are implementation dependent.

NOTE – This convention permits two possible implementation strategies. An implementation can choose a fixed interpretation of all the year values, such that the convention is satisfied throughout the expected life of the product, or it can interpret the dates dynamically, based on the current date, such that the implementation remains valid indefinitely. For example, an implementation could choose the fixed range 1970 to 2069 for the available values, meaning that the implementation would require revision if it is still in use by the year 2029.

3) Subclauses 11.2.25, 11.2.33, 11.2.44, 11.2.47, 11.2.50, 11.2.61, 11.2.63, 11.2.65 and 11.2.74 – Annex C

In the subclauses enumerated below, **amend** *the OTHER MATCHING-RULES field of the ASN.1 ATTRIBUTE definition by replacing* **}** *with* **, ...}** *in order to indicate that the object set is extensible. For example:*

OTHER MATCHING-RULES {someMatch}, *is changed to*

OTHER MATCHING-RULES {someMatch, ...},

The following ATTRIBUTE productions are affected:

Subclause	*Attribute*
11.2.25	**DL-expansion-history**
11.2.33	**Message-group-name**
11.2.44	**Originally-intended-recipient-name**
11.2.47	**Originator-name**
11.2.50	**Other-recipient-names**
11.2.61	**Recipient-names**
11.2.63	**Redirection-history**
11.2.65	**Reporting-DL-name**
11.2.74	**This-recipient-name**

Apply the same modifications to the corresponding productions in Annex C.

4) Subclause 7.1.2

1 Modification of the retrieval-status attribute

Append the following to item h):

This Specification defines one additional capability of the MS. If, and only if, the MS-configuration-request parameter of the MS-bind-argument is *true*, and the MS supports the use of the Modify abstract-operation to change the value of the retrieval-status attribute, then the following MS-EXTENSION shall be present:

```
modify-retrieval-status MS-EXTENSION ::= {
    ModifyRetrievalStatus IDENTIFIED BY id-ext-modify-retrieval-status }

ModifyRetrievalStatus ::= INTEGER {
    no-restriction          (0),
    listed-to-processed     (1) }
```

If the value *no-restriction* is present, then the MS supports any modification of the retrieval-status attribute. If the value *listed-to-processed* is present, then retrieval-status may be modified provided that its existing value is *listed* and the replacement value is *processed*.

5) Annex B

Insert the productions shown above in Annex B following the production for **MSBindResult**. *Add* **id-ext-modify-retrieval-status**, *after* **id-crt-ms-access-94**, *in the* **IMPORTS FROM MSObjectIdentifiers**.

6) Subclause 11.2.68

In 11.2.68 (Retrieval-status) *of Recommendation X.413, replace the second and third sentence with the following:*

The modify abstract-operation and auto-modify auto-action, if available, may be capable of amending the attribute.

7) Subclause 11.6

Replace the first sentence with the following:

Of the general-attribute-types, only those listed below are subject to modification by the Modify abstract-operation and the Auto-modify auto-action.

Add a new third sentence:

Support for the modification of retrieval-status is indicated as an additional capability reported in MS-bind-result [see item h) in 7.1.2].

8) Annex A

Add the following after the line starting **id-mr***:*

id-ext -- *extensions* -- ID ::= {id-ms 9}

Add the following before the line starting **END***:*
-- Extensions --

id-ext-modify-retrieval-status ID ::= {id-ext 0}

2 Clarification of Range boundaries

9) Subclause 8.1.1

In this subclause, append the following:

The sequence-number and creation-time specified in range need not identify existing entries.

10) Subclause 8.2.1

In this subclause, delete **sequence-number-error** | *from the ASN.1 production for* **summarize**.

11) Subclause 8.2.2 and Annex B

In this subclause, delete **sequence-number-error** | *from the ASN.1 production for* **list**.

In Annex B, delete **sequence-number-error** | *from the ASN.1 production for* **summarize**.

In Annex B, delete **sequence-number-error** | *from the ASN.1 production for* **list**.

3 Determination of the presence of an attribute

12) Subclause 8.1.4

Replace the production for **AttributeSelection** *with the following:*

```
AttributeSelection ::= SET {
    type      ATTRIBUTE.&id ({AttributeTable}),
    from      [0] INTEGER (1..ub-attribute-values) OPTIONAL -- used if type is multi-valued --,
    count     [1] INTEGER (0..ub-attribute-values) OPTIONAL
              -- for 1988 Application Contexts the lower bound is one -- }
```

Replace bullet c) *with the following:*

c) **Count** (O): This Integer specifies the maximum number of values to be returned. It is not an error if **count** is greater than the number of values present in the attribute. If **count** is zero, then information is requested on the total number of values present in the attribute but no actual values are returned. If this component is omitted, there is no limit as how many values are returned.

13) Subclause 8.1.5

In item b), *append the following to the last sentence:*

, or if all the requested-attributes present were specified in entry-information-selections in which the count component indicated that zero attribute-values were to be returned.

4 Missing matching-rule

14) Subclause 11.2.25 and Annex C

In the ASN.1 production for **mt-dl-expansion-history**, *insert the following after* **redirectionOrDLExpansionSubstringElementsMatch }***:*

| redirectionOrDLExpansionSingleElementMatch

15) Subclause 11.2.63 and Annex C

In the ASN.1 production for **mt-redirection-history**, *insert the following after* **redirectionOrDLExpansionSubstringElementsMatch }***:*

redirectionOrDLExpansionSingleElementMatch |

16) Subclause 12.4.7

Replace the first sentence with the following:

The **OR-name-single-element-match** rule determines whether a presented string and some element present in a value of an attribute of type OR-name match for equality.

Replace the first sentence of the last paragraph with the following:

The rule returns true if, and only if, the stored OR-name contains an element (in its OR-address or directory-name components) that matches the presented value according to the MS-string-match rule.

Append the same Note that appears in 12.4.6.

17) New subclause 12.4.11

Insert a new subclause 12.4.11 and renumber existing subclauses 12.4.11-14 to 12.4.12-15, accordingly:

12.4.11 Redirection-or-DL-expansion-single-element-match

The **Redirection-or-DL-expansion-single-element-match** rule determines whether a presented string and some element present in the **OR-address-and-optional-directory-name** component of a value of an attribute of type **Redirection-history** or **DL-expansion-history** match for equality.

```
redirectionOrDLExpansionSingleElementMatch MATCHING-RULE ::= {
    SYNTAX      MSString {ub-msstring-match}
    ID          id-mr-redirection-or-dl-expansion-single-element-match }
```

The rule returns true if, and only if, the stored OR-name contains an element (in its OR-address or directory-name components) that matches the presented value according to the MS-string-match rule. The terminal-type and extended form of network address elements are not considered when evaluating the Redirection-or-DL-expansion-single-element-match rule.

18) Subclause 12.6 and Annex D

In the production for **GeneralMatchingRules**, *add the following before* **redirectionOrDLExpansionSubstringElementsMatch***:*

redirectionOrDLExpansionSingleElementMatch |

19) Annex A

Add the following to the **Matching-rules** *section, preserving alphabetical order:*

id-mr-redirection-or-dl-expansion-single-element-match ID ::= {id-mr 25}

20) Annex C

Add the following after **redirectionOrDLExpansionMatch**, *in the* **IMPORTS FROM MSMatchingRules***:*

redirectionOrDLExpansionSingleElementMatch,

21) Annex D

Add the production given above in 12.4.11 for **redirectionOrDLExpansionSingleElementMatch** *to this annex, before the production for* **redirectionOrDLExpansionSubstringElementsMatch**.

Add the following to the **IMPORTS FROM MSObjectIdentifiers** *after* **id-mr-redirection-or-dl-expansion-match,***:*

id-mr-redirection-or-dl-expansion-single-element-match,

5 Attribute creation problem

22) Subclause 11.2.3

*In 11.2.3 (***AC-uncorrelated-report-list***, here renumbered 11.2.4) replace the first sentence of the second paragraph with the following:*

The attribute is created when the first report of the kind described is delivered, and updated as further reports of this kind are delivered.

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