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ITU-T

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Corrigendum 2

(03/2014)

SERIES X: DATA NETWORKS, OPEN SYSTEM COMMUNICATIONS AND SECURITY

OSI networking and system aspects – Abstract Syntax Notation One (ASN.1)

Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation

Technical Corrigendum 2

Recommendation ITU-T X.680 (2008) – Technical Corrigendum 2

International Telecommunication Union

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INTERNATIONAL STANDARD ISO/IEC 8824-1
RECOMMENDATION ITU-T X.680

Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation

Technical Corrigendum 2

Summary

This technical corrigendum, Corrigendum 2 to Rec. ITU-T X.680 (2008) | ISO/IEC 8824-1:2008 provides corrections and clarifications to various minor problems.

History

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FOREWORD

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

INTERNATIONAL STANDARD
RECOMMENDATION ITU-T

Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation

Technical Corrigendum 2

Conventions used in this corrigendum: Original, unchanged text is in normal font. Deleted text is struck-through, e.g., ~~deleted text~~. *Inserted text is underlined, e.g.,* inserted text.

1) Clause 11

Add the following line in Table 2 after the line related to RIGHT CURLY BRACKET:

– (NON-BREAKING HYPHEN)

Add a new clause 11.8 and a NOTE as follows:

11.8 The NON-BREAKING HYPHEN and the HYPHEN-MINUS should be treated as identical in all names.

NOTE – A name such as My-Type is the same name whether it contains a HYPHEN-MINUS or a NON-BREAKING HYPHEN.

2) Clause 12.1.6

Add the following new line after SPACE(32):

NO-BREAK SPACE ({0,0,0,160})

3) Clause 16.2

Modify clause 16.2 as follows:

16.2 A "valuereference" shall be assigned a value by the notation specified by either the "ValueAssignment" or "XMLValueAssignment" productions:

ValueAssignment ::=

valuereference

Type

"::="

Value

XMLValueAssignment ::=

valuereference

"::="

XMLTypedValue

XMLTypedValue ::=

"<" & NonParameterizedTypeName ">"

XMLValue

"</" & NonParameterizedTypeName ">"

| "<" & NonParameterizedTypeName "/>"

The value being assigned to the "valuereference" in the "ValueAssignment" is "Value", and is governed by "Type" and shall be a notation for a value of the type defined by "Type" (as specified in 16.3). The value being assigned to the "valuereference" in the "XMLValueAssignment" is "XMLValue" (see 17.7), and shall be a notation for a value of the

type defined by "NonParameterizedTypeName" (as specified in 16.4). If this is the "xmlasn1typename" item, then it identifies the ASN.1 built-in type in the corresponding row of Table 4 (see also 14.3). Whitespace is permitted around "XMLValue" in "XMLTypedValue" except where explicitly forbidden (see 41.9 and Rec. ITU-T X.693 | ISO/IEC 8825-4, 31.3.4.1).

4) Clause 33.6

Modify the example of clause 33.6 as follows:

EXAMPLE

With the following definitions:

thisUniversity OBJECT IDENTIFIER ::=

~~{iso member-body country(29)~~ joint-iso-itu-t example(999) universities(56) thisuni(32)}

firstgroup RELATIVE-OID ::= {science-fac(4) maths-dept(3)}

or in XML value notation:

thisUniversity ::= <OBJECT_IDENTIFIER>~~1.2.29~~2.999.56.32</OBJECT_IDENTIFIER>

firstgroup ::= <RELATIVE_OID>4.3</RELATIVE_OID>

the relative object identifier:

relOID RELATIVE-OID ::= {firstgroup room(4) socket(6)}

or in XML value notation:

relOID ::= <RELATIVE_OID>4.3.4.6</RELATIVE_OID>

can be used instead of the **OBJECT IDENTIFIER** value **{~~1 2 29~~ 999 56 32 4 3 4 6}** if the current root (known by the application or transmitted by the application) is **thisUniversity**.

5) Clause 34.5

Modify the examples of clause 34.5 as follows:

EXAMPLES

With identifiers assigned as specified in Rec. ITU-T. X.660 | ISO/IEC 9834-1 and ISO/IEC 19785 the object identified by:

```
{iso registration-authority cbeff (19785) organizations(0) jtc1-sc37(257) patron-
formats(1) tlv-encoded (5)}
```

or in XML value notation:

```
<OID>1.~~3~~1.19785.0.257.1.5</OID>
```

which identifies a TLV-encoded CBEFF Patron Format, could also have an ASN.1 OID-IRI identification of

```
"/ISO/Registration_Authority/19785.CBEFF/Organizations/JTC1-SC37/Patron-
formats/TLV-encoded"
```

Or, in XML value notation:

```
<OID-IRI>/ISO/Registration_Authority/19785.CBEFF/Organizations/JTC1-SC37/Patron-
formats/TLV-encoded</OID-IRI>
```

6) Clause 41.9

Modify clause 41.9 as follows:

41.9 The "XMLRestrictedCharacterStringValue" notation is:

XMLRestrictedCharacterStringValue ::= xmlcstring

Whitespace shall not occur around "XMLValue" in "XMLTypedValue" (see 16.2) for an "XMLRestrictedCharacterStringValue" except where this notation is used in an encoding and the encoding rules explicitly allow the whitespace (see Rec. ITU-T X.693 | ISO/IEC 8825-4, 39.3.2).

7) Clause 50.1

Modify NOTE 7 as follows:

NOTE 7 – When the elements are information objects (i.e., the governor is an information object class), the notation "ObjectSetElements" as defined in Rec. ITU-T X.681 | ISO/IEC 8824-2, 12.~~3~~10 is used.

8) Clause 50.6

Add a new clause before current clause 50.6:

50.6 When performing set arithmetic within a subtype constraint or a value set when the governing type is not extensible, only abstract values of the governing type are used in the set arithmetic. In this case, all instances of value notation (including value references) used in set arithmetic are required to reference an abstract value of the governing type. The end-points of a range constraint are required to reference values of the governing type, and the range specification as a whole references all (and only) those values in the range that are abstract values of the governing type.

And rename current clause 50.6 as clause 50.6bis.

9) Clause 50.8

Add a new clause before current clause 50.8:

50.8 If a subtype constraint is applied to a parent type which is not extensible, value notation used within it shall not reference values that are not abstract values of the parent type.

And rename current clause 50.8 as clause 50.8bis.

10) Clause D.2

Add a new value at the end of the module (just before the "END" line) containing;

```
-- EXER encoding of a single ASN.1 type (extended) --
xerExtended OBJECT IDENTIFIER ::=
{joint-iso-itu-t asn1(1) xml-encoding(5) extended(2) }
```

11) Clause G.2.8

Modify clause G.2.8 as follows:

Use the unrestricted character string type to model any string of information which cannot be modelled using one of the restricted character string types. Be sure to specify the repertoire of characters and their coding into octets.

EXAMPLE

```
PackedBCDString ::= CHARACTER STRING (WITH COMPONENTS {
                        identification (WITH COMPONENTS {fixed  PRESENT })
              /* The abstract and transfer syntaxes shall be
                 packedBCDString-AbstractSyntaxId and
                 packedBCDString-TransferSyntaxId defined below.
        */
                        } )

        /* object identifier value for a character abstract syntax
           (character set) whose alphabet
           is the digits 0 through 9.
        */
packedBCDString-AbstractSyntaxId  OBJECT  IDENTIFIER ::=
        { joint-iso-itu-t asn1(1) examples(123999) packedBCD(2) charSet(0) }

        /* object identifier value for a character transfer syntax that
           packs two digits per octet, each digit encoded as 0000 to
           1001, 1111₂ used for padding.
        */
packedBCDString-TransferSyntaxId  OBJECT IDENTIFIER ::=
                    { joint-iso-itu-t asn1(1) examples(123999) packedBCD(2)
                        characterTransferSyntax(1) }
```

/ The encoding of PackedBCDString will contain only the defined
encoding of the characters, with any necessary length field, and in
the case of BER with a field carrying the tag. The object
identifier values are not carried, as "fixed" has been specified.
/

or using XML value notation:

packedBCDString-AbstractSyntaxId ::=
<OBJECT_IDENTIFIER>
joint-iso-itu-t.~~asn1(1).~~examples(~~123~~999).packedBCD(2).charSet(0)
</OBJECT_IDENTIFIER>

packedBCDString-TransferSyntaxId ::=
<OBJECT_IDENTIFIER>
joint-iso-itu-t.~~asn1(1).~~examples(~~123~~999).packedBCD(2).characterTransferSyntax(1)
</OBJECT_IDENTIFIER>

or:

packedBCDString-AbstractSyntaxId ::=
<OBJECT_IDENTIFIER>2.9991.~~123~~.2.0</OBJECT_IDENTIFIER>

PackedBCDString-TransferSyntaxId ::=
<OBJECT_IDENTIFIER>2.9991.~~123~~.2.1</OBJECT_IDENTIFIER>

NOTE – Encoding rules do not necessarily encode values of the type **CHARACTER STRING** in a form that always includes the object identifier values, although they do guarantee that the abstract value is preserved in the encoding.

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