INTERNATIONAL STANDARD

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

AMENDMENT 1: Relative object identifiers

Technologies de l'information — Notation de syntaxe abstraite numéro un (ASN.1): Spécification de la notation de base

AMENDEMENT 1: Identificateurs d'objet relatif

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Foreword

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Amendment 1 to International Standard ISO/IEC 8824-1:1998 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*, in collaboration with ITU-T. The identical text is published as ITU-T Rec. X.680/Amd.1.

INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – ABSTRACT SYNTAX NOTATION ONE (ASN.1): SPECIFICATION OF BASIC NOTATION

AMENDMENT 1
Relative object identifiers

1) Subclause 3.8

Add the definitions 3.8.53 bis and 3.8.53 ter as follows:

3.8.53 *bis* relative object identifier: A value which identifies an object by its position relative to some known object identifier (see 3.8.46).

3.8.53 *ter* relative object identifier type: A simple type each of whose abstract values is a list of object identifier components identifying the trailing part of an object identifier.

2) Table 1, subclause 8.2

Add another row to Table 1 after the row "UNIVERSAL 12 UTF8String type" *as follows:*

UNIVERSAL 13	Relative object identifier type

Change the row reading "UNIVERSAL 13-15 …" *to:*

UNIVERSAL 14-15	Reserved for future editions of this Recommendation | International Standard

3) Subclause 11.18

Add a new reserved word RELATIVE-OID *after* REAL *in 11.18.*

4) Subclause 16.2 and Annex G

Add a line in 16.2 and in Annex G after "**RealType** |" *as follows:*

RelativeOIDType |

Add a line in 16.2 after "RealType 20" *as follows:*

RelativeOIDType 31 bis

5) Subclause 16.8 and Annex G

Add a line in 16.8 and in Annex G after "**RealValue** |" *as follows:*

RelativeOIDValue |

6) New clause 31 *bis*

Add a new clause 31 bis after clause 31 as follows:

31 *bis* Notation for the relative object identifier type

31 *bis* 1 The relative object identifier type (see 3.8.53 *ter*) shall be referenced by the notation "RelativeOIDType":

```
RelativeOIDType ::=
        RELATIVE-OID
```

31 *bis* 2 This type has a tag which is universal class, number 13.

31 *bis* 3 The value notation for a relative object identifier shall be "RelativeOIDValue":

RelativeOIDValue ::=
"{" RelativeOIDComponentsList "}"

RelativeOIDComponentsList ::=
RelativeOIDComponents |
RelativeOIDComponents RelativeOIDComponentsList

RelativeOIDComponents ::= NumberForm |
NameAndNumberForm |
DefinedValue

31 *bis* 4 The productions "NumberForm", "NameAndNumberForm", and their semantics, are defined in 31.3 to 31.10.

31 *bis* 5 The "DefinedValue" of "RelativeOIDComponents" shall be of type relative object identifier, and shall identify an ordered set of arcs from some starting node in the object identifier tree to some later node in the object identifier tree. The starting node is identified by the earlier "RelativeOIDComponents"s (if any), and later "RelativeOIDComponents"s (if any) identify arcs from the later nodes.

31 *bis* 6 The first "RelativeOIDComponents" identifies one or more arcs from some starting node in the object identifier tree to some later node in the object identifier tree. The starting point can be defined by comments associated with the type definition. If there is no definition of the starting node within comments associated with the type definition, then it needs to be transmitted as an object identifier value in an instance of communication. See C.2.19. The starting node is required to be neither the root, nor a node immediately beneath the root.

NOTE – A relative object identifier value has to be associated with a specific object identifier value so as to unambiguously identify an object. Object identifier values are required (by ITU-T Rec. X.660 | ISO/IEC 9834-1) to have at least two components. This is why there is a restriction on the starting node.

EXAMPLE

With the following definitions:

thisUniversity OBJECT IDENTIFIER ::=
{iso member-body country(29) universities(56) thisuni(32)}

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

the relative object identifier:

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

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

7) Subclause 31.3 and Annex G

In 31.3 and in the productions in Annex G, change all occurrences of:

ObjIdComponentList

to:

ObjIdComponentsList

and all occurrences of:

ObjIdComponent

to:

ObjIdComponents

In 31.3 and in the productions of Annex G, modify the production "ObjIdComponents" *by changing:*

NameAndNumberForm

to read:

NameAndNumberForm |

DefinedValue