

ISO/IEC 8825-2:2008-12 (E)

Information technology - ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)

CONTENTS

	<i>Page</i>
Foreword	vi
Introduction	vii
1 Scope	1
2 Normative references	1
2.1 Identical Recommendations International Standards	1
2.2 Additional references	1
3 Definitions	2
3.1 Specification of Basic Notation	2
3.2 Information Object Specification	2
3.3 Constraint Specification	2
3.4 Parameterization of ASN.1 Specification	2
3.5 Basic Encoding Rules	2
3.6 PER Encoding Instructions	2
3.7 Additional definitions	2
4 Abbreviations	5
5 Notation	5
6 Convention	5
7 Encoding rules defined in this Recommendation International Standard	5
8 Conformance	6
9 PER encoding instructions	6
10 The approach to encoding used for PER	7
10.1 Use of the type notation	7
10.2 Use of tags to provide a canonical order	7
10.3 PER-visible constraints	7
10.4 Type and value model used for encoding	9
10.5 Structure of an encoding	9
10.6 Types to be encoded	10
11 Encoding procedures	10
11.1 Production of the complete encoding	10
11.2 Open type fields	11
11.3 Encoding as a non-negative-binary-integer	11
11.4 Encoding as a 2's-complement-binary-integer	12
11.5 Encoding of a constrained whole number	12
11.6 Encoding of a normally small non-negative whole number	13
11.7 Encoding of a semi-constrained whole number	13
11.8 Encoding of an unconstrained whole number	14
11.9 General rules for encoding a length determinant	14
12 Encoding the boolean type	16
13 Encoding the integer type	17
14 Encoding the enumerated type	17
15 Encoding the real type	18
16 Encoding the bitstring type	18
17 Encoding the octetstring type	19
18 Encoding the null type	20
19 Encoding the sequence type	20
20 Encoding the sequence-of type	21
21 Encoding the set type	21

22	Encoding the set-of type.....	22
23	Encoding the choice type	22
24	Encoding the object identifier type	23
25	Encoding the relative object identifier type.....	23
26	Encoding the internationalized resource reference type.....	23
27	Encoding the relative internationalized resource reference type.....	23
28	Encoding the embedded-pdv type	23
29	Encoding of a value of the external type.....	24
30	Encoding the restricted character string types.....	25
31	Encoding the unrestricted character string type	26
32	Encoding the time type, the useful time types, the defined time types and the additional time types.....	27
32.1	General.....	27
32.2	Encoding subtypes with the "Basic=Date" property setting	31
32.3	Encoding subtypes with the "Basic=Time" property setting	33
32.4	Encoding subtypes with the "Basic=Date-Time" property setting.....	36
32.5	Encoding subtypes with the "Basic=Interval Interval-type=SE" property setting.....	36
32.6	Encoding subtypes with the "Basic=Interval Interval-type=D" property setting.....	37
32.7	Encoding subtypes with the "Basic=Interval Interval-type=SD" or "Basic=Interval Interval-type=DE" property setting.....	38
32.8	Encoding subtypes with the "Basic=Rec-Interval Interval-type=SE" property setting.....	39
32.9	Encoding subtypes with the "Basic=Rec-Interval Interval-type=D" property setting.....	39
32.10	Encoding subtypes with the "Basic=Rec-Interval Interval-type=SD" or "Basic=Rec-Interval Interval-type=DE" property setting.....	40
32.11	Encoding subtypes with mixed settings of the Basic property.....	41
33	Object identifiers for transfer syntaxes	43
Annex A	Example of encodings.....	44
A.1	Record that does not use subtype constraints.....	44
A.1.1	ASN.1 description of the record structure.....	44
A.1.2	ASN.1 description of a record value	44
A.1.3	ALIGNED PER representation of this record value	44
A.1.4	UNALIGNED PER representation of this record value	45
A.2	Record that uses subtype constraints.....	47
A.2.1	ASN.1 description of the record structure.....	47
A.2.2	ASN.1 description of a record value	47
A.2.3	ALIGNED PER representation of this record value	47
A.2.4	UNALIGNED PER representation of this record value	48
A.3	Record that uses extension markers	49
A.3.1	ASN.1 description of the record structure.....	49
A.3.2	ASN.1 description of a record value	50
A.3.3	ALIGNED PER representation of this record value	50
A.3.4	UNALIGNED PER representation of this record value	52
A.4	Record that uses extension addition groups	53
A.4.1	ASN.1 description of the record structure.....	53
A.4.2	ASN.1 description of a record value	54
A.4.3	ALIGNED PER representation of this record value	54
A.4.4	UNALIGNED PER representation of this record value	54
Annex B	Combining PER-visible and non-PER-visible constraints	56
B.1	General.....	56
B.2	Extensibility and visibility of constraints in PER	56
B.2.1	General.....	56
B.2.2	PER-visibility of constraints	57
B.2.3	Effective constraints.....	58
B.3	Examples.....	59
Annex C	Support for the PER algorithms	61

Annex D Support for the ASN.1 rules of extensibility..... 62
Annex E Tutorial annex on concatenation of PER encodings..... 63
Annex F Identification of Encoding Rules 64