

# ISO/IEC 24824-1:2007-05 (E)

## Information technology - Generic applications of ASN.1: Fast infoset

### CONTENTS

	<i>Page</i>
1	Scope ..... 1
2	Normative references ..... 1
2.1	Identical Recommendations   International Standards ..... 2
2.2	Additional references ..... 2
3	Definitions ..... 3
3.1	ASN.1 terms ..... 3
3.2	ECN terms ..... 3
3.3	ISO/IEC 10646 terms ..... 3
3.4	Additional definitions ..... 3
4	Abbreviations ..... 4
5	Notation ..... 4
6	Principles of vocabulary table construction and use ..... 5
7	ASN.1 type definitions ..... 6
7.1	General ..... 6
7.2	The Document type ..... 6
7.3	The Element type ..... 11
7.4	The Attribute type ..... 12
7.5	The ProcessingInstruction type ..... 12
7.6	The UnexpandedEntityReference type ..... 13
7.7	The CharacterChunk type ..... 13
7.8	The Comment type ..... 14
7.9	The DocumentTypeDeclaration type ..... 14
7.10	The UnparsedEntity type ..... 15
7.11	The Notation type ..... 15
7.12	The NamespaceAttribute type ..... 16
7.13	The IdentifyingStringOrIndex type ..... 16
7.14	The NonIdentifyingStringOrIndex type ..... 17
7.15	The NameSurrogate type ..... 18
7.16	The QualifiedNameOrIndex type ..... 19
7.17	The EncodedCharacterString type ..... 20
8	Construction and processing of a fast infoset document ..... 21
8.1	Conceptual ordering of components of an abstract value of the Document type ..... 22
8.2	The restricted alphabet table ..... 22
8.3	The encoding algorithm table ..... 22
8.4	The dynamic string tables ..... 23
8.5	The dynamic name tables and name surrogates ..... 23
9	Built-in restricted alphabets ..... 24
9.1	The "numeric" restricted alphabet ..... 24
9.2	The "date and time" restricted alphabet ..... 24
10	Built-in encoding algorithms ..... 24
10.1	General ..... 24
10.2	The "hexadecimal" encoding algorithm ..... 25
10.3	The "base64" encoding algorithm ..... 25
10.4	The "short" encoding algorithm ..... 25
10.5	The "int" encoding algorithm ..... 26
10.6	The "long" encoding algorithm ..... 26
10.7	The "boolean" encoding algorithm ..... 26
10.8	The "float" encoding algorithm ..... 27
10.9	The "double" encoding algorithm ..... 27
10.10	The "uuid" encoding algorithm ..... 27

	<i>Page</i>
10.11 The "cdata" encoding algorithm .....	28
11 Restrictions on the supported XML infosets and other simplifications .....	28
12 Bit-level encoding of the Document type .....	29
Annex A – ASN.1 module and ECN modules for fast infoset documents .....	31
A.1 ASN.1 module definition .....	31
A.2 ECN module definitions .....	33
Annex B – The MIME media type for fast infoset documents .....	53
Annex C – Description of the encoding of a fast infoset document .....	55
C.1 Fast infoset document .....	55
C.2 Encoding of the Document type .....	55
C.3 Encoding of the Element type .....	57
C.4 Encoding of the Attribute type .....	58
C.5 Encoding of the ProcessingInstruction type .....	58
C.6 Encoding of the UnexpandedEntityReference type .....	59
C.7 Encoding of the CharacterChunk type .....	59
C.8 Encoding of the Comment type .....	59
C.9 Encoding of the DocumentTypeDeclaration type .....	59
C.10 Encoding of the UnparsedEntity type .....	60
C.11 Encoding of the Notation type .....	60
C.12 Encoding of the NamespaceAttribute type .....	61
C.13 Encoding of the IdentifyingStringOrIndex type .....	61
C.14 Encoding of the NonIdentifyingStringOrIndex type starting on the first bit of an octet .....	61
C.15 Encoding of the NonIdentifyingStringOrIndex type starting on the third bit of an octet .....	62
C.16 Encoding of the NameSurrogate type .....	62
C.17 Encoding of the QualifiedNameOrIndex type starting on the second bit of an octet .....	62
C.18 Encoding of the QualifiedNameOrIndex type starting on the third bit of an octet .....	63
C.19 Encoding of the EncodedCharacterString type starting on the third bit of an octet .....	63
C.20 Encoding of the EncodedCharacterString type starting on the fifth bit of an octet .....	64
C.21 Encoding of the length of a sequence-of type .....	64
C.22 Encoding of the NonEmptyOctetString type starting on the second bit of an octet .....	64
C.23 Encoding of the NonEmptyOctetString starting on the fifth bit of an octet .....	65
C.24 Encoding of the NonEmptyOctetString type starting on the seventh bit of an octet .....	65
C.25 Encoding of integers in the range 1 to 2 <sup>20</sup> starting on the second bit of an octet .....	65
C.26 Encoding of integers in the range 0 to 2 <sup>20</sup> starting on the second bit of an octet .....	66
C.27 Encoding of integers in the range 1 to 2 <sup>20</sup> starting on the third bit of an octet .....	66
C.28 Encoding of integers in the range 1 to 2 <sup>20</sup> starting on the fourth bit of an octet .....	66
C.29 Encoding of integers in the range 1 to 256 .....	67
Annex D – Examples of encoding XML infosets as fast infoset documents .....	68
D.1 Introduction of examples .....	68
D.2 Size of example documents (including redundancy-based compression) .....	68
D.3 UBL order example .....	69
D.4 UBL Order fast infoset document with an external vocabulary .....	71
D.5 UBL order fast infoset document without an initial vocabulary .....	79
Annex E – Assignment of object identifier values .....	90
BIBLIOGRAPHY .....	91