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**Information technology — ASN.1  
encoding rules: Specification of Basic  
Encoding Rules (BER), Canonical  
Encoding Rules (CER) and Distinguished  
Encoding Rules (DER)**

**AMENDMENT 1** Support for  
**EXTENDED XER**

*ISO/IEC 8825-1:2002/Amd 1:2004*  
*Technologies de l'information — Règles de codage ASN.1:*  
*Spécification des règles de codage de base (BER), des règles de*  
*codage canoniques (CER) et des règles de codage distinctives (DER)*

*AMENDEMENT 1: Prise en charge des règles de codage XML  
étendues*

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## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Amendment 1 to International Standard ISO/IEC 8825-1:2002 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 Amendment 1 to ITU-T Rec. X.690.

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INTERNATIONAL STANDARD  
ITU-T RECOMMENDATION**Information technology – ASN.1 encoding rules: Specification of Basic Encoding Rules (BER),  
Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)****Amendment 1****Support for EXTENDED-XER**

NOTE – All new or changed text in this amendment is underlined in the clauses being replaced. When merging all such text into the base Recommendation, the underlining is to be removed.

**1) New subclause 8.1.1.5**

*Insert a new subclause 8.1.1.5 as follows:*

**8.1.1.5** There are no encoding instructions (see ITU-T Rec. X.680 | ISO/IEC 8824-1, 3.6.22 *ter*) defined for the encoding rules specified in this Recommendation | International Standard.

**2) Subclause 8.5.2**

*Replace subclause 8.5.2 with the following:*

**8.5.2** If the real value is the value plus zero, there shall be no contents octets in the encoding.

**3) New subclause 8.5.2 bis**

*Insert a new subclause 8.5.2 bis as follows:*

**8.5.2 bis** If the real value is the value minus zero, then it shall be encoded as specified in 8.5.8.

**4) Subclause 8.5.5**

*Replace subclause 8.5.5 as follows:*

**8.5.5** Bit 8 of the first contents octet shall be set as follows:

- a) if bit 8 = 1, then the binary encoding specified in 8.5.6 applies;
- b) if bit 8 = 0 and bit 7 = 0, then the decimal encoding specified in 8.5.7 applies;
- c) if bit 8 = 0 and bit 7 = 1, then either a "SpecialRealValue" (see ITU-T Rec. X.680 | ISO/IEC 8824-1) or the value minus zero is encoded, as specified in 8.5.8.

**5) Subclause 8.5.8**

Replace subclause 8.5.8 with the following:

**8.5.8** When "SpecialRealValues" or minus zero are to be encoded (bits 8 to 7 = 01), there shall be only one contents octet, with values as follows:

01000000	Value is <b>PLUS-INFINITY</b>
01000001	Value is <b>MINUS-INFINITY</b>
<u>01000010</u>	Value is <u><b>NOT-A-NUMBER</b></u>
<u>01000011</u>	Value is <u>minus zero</u>

All other values having bits 8 and 7 equal to 0 and 1 respectively are reserved for addenda to this Recommendation | International Standard.

**6) Subclause 8.14**

Replace subclause 8.14 with the following:

**8.14 Encoding of a value of a prefixed type**

**7) New subclause 8.14.1 *pre***

Insert a new subclause 8.14.1 *pre* before subclause 8.14.1 as follows:

**8.14.1 *pre*** If the prefixed type is an "EncodingPrefixedType", then the encoding is that of the "Type" in the "EncodingPrefixedType". If the prefixed type is a "TaggedType", then the following subclauses apply.

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**8) Subclause 8.14.2**

In subclause 8.14.2, replace "30.6" with "30.2.7".  
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