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**AMENDMENT 2**  
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**Information technology — Computer graphics —  
Metafile for the storage and transfer of picture  
description information —**

**Part 3:**  
Binary encoding

**AMENDMENT 2: Application structuring extensions**

*Technologies de l'information — Infographie — Métafichier de stockage et de  
transfert des informations de description d'images —*

*Partie 3: Codage binaire*

*AMENDEMENT 2: Extensions de structure d'application*



Reference number  
ISO/IEC 8632-3:1992/Amd.2:1995(E)

## Foreword

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Amendment 2 to International Standard ISO/IEC 8632-3 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 24, *Computer graphics and image processing*.

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**Information technology - Computer graphics - Metafile for the storage and transfer of picture description information**

**Part 3:  
Binary encoding**

**AMENDMENT 2: Application structuring extensions**

*Pages ii-iii*

*Add the following to Contents:*

"7.11 Application structure descriptor elements"

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**7.1 Method of presentation**

Change the 1st sentence and Table 2, page 18, to read:

"The elements are grouped according to their class; there are 9 classes.

**Table 2 - List of element class codes**

| Class | Type of Elements                               |
|-------|--|
| 0     | Delimiter Elements                             |
| 1     | Metafile Descriptor elements                   |
| 2     | Picture Descriptor elements                    |
| 3     | Control elements                               |
| 4     | Graphical Primitive elements                   |
| 5     | Attribute elements                             |
| 6     | Escape elements                                |
| 7     | External elements                              |
| 8     | Segment Control and Segment Attribute elements |
| 9     | Application Structure Descriptor elements      |
| 10-15 | Reserved for future standardization            |

"

**7.2 Delimiter elements**

Add the following entries at the end of Table 3, page 19:

"

|                                  |    |         |        |             |
|----------------------------------|----|---------|--------|-------------|
| BEGIN APPLICATION STRUCTURE      | 21 | SF,SF,E | 2BS+BE | SR,SR,{0,1} |
| BEGIN APPLICATION STRUCTURE BODY | 22 | n/a     | 0      | n/a         |
| END APPLICATION STRUCTURE        | 23 | n/a     | 0      | n/a         |

"

Add the following descriptions to the list, page 20:

"21 BEGIN APPLICATION STRUCTURE:has two parameters

- P1: (string fixed)application structure identifier
- P2: (string fixed)application structure type
- P3: (enumerated)inheritance flag:valid values are
  - 0 STATE LIST
  - 1 APPLICATION STRUCTURE

22 BEGIN APPLICATION STRUCTURE BODY:has no parameters

23 END APPLICATION STRUCTURE:has no parameters"

### 7.3 Metafile descriptor elements

Add the following to the end of Table 4, page 21:

"

|                   |    |                |                  |                                |
|-------------------|----|----------------|------------------|--------------------------------|
| PICTURE DIRECTORY | 24 | E,n(SF,2[ldt]) | BE+n(BS+2B[ldt]) | {0,1,2},<br>(SR,[ldt]R,[ldt]R) |
|-------------------|----|----------------|------------------|--------------------------------|

"

Change the Description of METAFILE VERSION in the list, page 21, to read:

"1 METAFILE VERSION:has 1 parameter:

P1: (integer) metafile version number: valid values are 1,2,3,4"

Change the Description of METAFILE ELEMENTS LIST in the list, page 23, to read:

"11 METAFILE ELEMENTS LIST: has 2 parameters:

P1: (integer) number of elements specified

P2: (index-pair array) List of metafile elements in this metafile. Each element is represented by two values: the first is its element class code (as in table 2) and the second is its element id code (as in table 3 to table 10). These codes are listed in annex C. The shorthand pseudo-elements are represented by

|                          |         |
|--------------------------|---------|
| drawing set:             | (-1,0)  |
| drawing-plus-control-set | (-1,1)  |
| version-2 set            | (-1,2)  |
| extended-primitives set  | (-1,3)  |
| version-2-gksm set       | (-1,4)  |
| version-3 set            | (-1,5)  |
| version-4 set            | (-1,6)" |

Add the following descriptions to the end of the list, page 27:

"24 PICTURE DIRECTORY:has 2 parameters:

P1: (enumerated) location data type selector: valid values are

|   |      |
|---|------|
| 0 | UI8  |
| 1 | UI16 |
| 2 | UI32 |

P2: list of 3-tuples consisting of:

Picture Identifier (string fixed)

Picture Location ([ldt]) offset, in octets, from the beginning of the metafile

Application Structure Directory Location ([ldt]) offset, in octets, from the beginning of the metafile

Note: [ldt] designates UI8, UI16, UI32 as selected by location data type selector parameter. The values of picture-location are the offsets in octets from the beginning of the metafile to the start of the associated BEGIN PICTURE element. The values of Application Structure Directory Location are the offsets in octets from the start of the metafile to the start of the APPLICATION STRUCTURE DIRECTORY element of the associated picture."

**7.4 Picture descriptor elements**

Add the following entry to the end of Table 5, page 28:

"

|                                 |    |               |                 |                             |
|---------------------------------|----|---------------|-----------------|-----------------------------|
| APPLICATION STRUCTURE DIRECTORY | 24 | E,n(SF,[ldt]) | BE+n(BS+B[ldt]) | {0,1,2}, (SR,[ldt]R,[ldt]R) |
|---------------------------------|----|---------------|-----------------|-----------------------------|

"

Add the following descriptions to the end of the list, page 32:

"20 APPLICATION STRUCTURE DIRECTORY:has 2 parameters

P1: (enumerated) location data type selector: valid values are

- 0 UI8
- 1 UI16
- 2 UI32

P2: list of pairs consisting of:

- Application Structure Identifier (string fixed)
- Application Structure Location ([ldt]) offsets, in octets, from the beginning of the picture containing the APS

NOTE - [ldt] designates UI8, UI16, UI32 as selected by location data type selector parameter. The values of Application Structure Location are the offsets in octets from the beginning of the BEGIN PICTURE element to the start of the associated BEGIN APPLICATION STRUCTURE element."

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Add the new Subclause after Subclause 7.10, page 57:

### "7.11 Application structure descriptor elements

**Table 12 - Encoding of application structure descriptor elements**

| Element Class 9                 | Element Id | Parameter Type | Parameter List Length | Parameter Range |
|---------------------------------|------------|----------------|-----------------------|-----------------|
| APPLICATION STRUCTURE ATTRIBUTE | 1          | SF, SDR        | BS+BS                 | SR, SR          |

Additional description of the elements in Table 12:

Code      Description

1          APPLICATION STRUCTURE ATTRIBUTE:has 2 parameters

P1: (string fixed) application structure attribute type

P2: (structured data record) data record "

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## 9 Conformance

*Change the first sentence of the 2nd paragraph as follows, page 59:*

"Inclusion of non-graphical data in the metafile should be accomplished with the APPLICATION DATA element or with the APPLICATION STRUCTURE ATTRIBUTE element."

### Annex C

*Add the following elements to the end of the list of delimiter elements, page 67:*

|    |    |                                  |
|----|----|----------------------------------|
| "0 | 21 | BEGIN APPLICATION STRUCTURE      |
| 0  | 22 | BEGIN APPLICATION STRUCTURE BODY |
| 0  | 23 | END APPLICATION STRUCTURE"       |

*Add the following element to the end of the list of metafile descriptor elements, page 68:*

|    |    |                    |
|----|----|--------------------|
| "1 | 24 | PICTURE DIRECTORY" |
|----|----|--------------------|

*Add the following element to the end of the list of picture descriptor elements, page 68:*

|    |    |                                  |
|----|----|----------------------------------|
| "2 | 20 | APPLICATION STRUCTURE DIRECTORY" |
|----|----|----------------------------------|

*Add the following element class after Segment Elements: Class 8, page 71:*

"Application Structure Descriptor Elements: Class 9

| Class | Element Code | Element Name                     |
|-------|--------------|----------------------------------|
| 9     | 1            | APPLICATION STRUCTURE ATTRIBUTE" |

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