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Information processing – Text and office systems – Office Document Architecture (ODA) and interchange format –

Part 10:
Formal specifications

**AMENDMENT 5: Formal specification of the
defaulting mechanism for defaultable attributes**

*Traitement de l'information – Bureautique – Architecture des documents de
bureau (ODA) et format d'échange –*

Partie 10: Spécifications formelles

*AMENDEMENT 5 : Spécification formelle du mécanisme par défaut pour les
attributs par défaut*



Reference number
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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. 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.

Amendment 5 to International Standard ISO/IEC 8613-10:1991 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Sub-Committee SC 18, *Document processing and related communication*.

ISO/IEC 8613 consists of the following parts under the general title *Information processing – Text and office systems – Office Document Architecture (ODA) and interchange format*:

- Part 1: *Introduction and general principles*
- Part 2: *Document structures*
- Part 4: *Document profile*
- Part 5: *Office Document Interchange Format (ODIF)*
- Part 6: *Character content architectures*
- Part 7: *Raster graphics content architectures*
- Part 8: *Geometric graphics content architectures*
- Part 10: *Formal specifications*

Annex F forms an integral part of this part of ISO/IEC 8613.

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Information processing – Text and office systems – Office Document Architecture (ODA) and interchange format –

Part 10:

Formal specifications

AMENDMENT 5 : Formal specification of the defaulting mechanism for defaultable attributes

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Instructions for merging this Amendment into ISO/IEC 8613-10:

— In Contents add:

Annex F: Formal specification of the defaulting mechanism for defaultable attributes

— In the definition of the production rules (subclause 4.2), the following line is added to the definition of a "term":

“particularization-term |”

— The following production rule is added:

“particularization-term ::=
 THAT var (formula)”

NOTE – The semantics of the terminal symbol **THAT** in this production rule are specified in subclause 4.5”.

— In subclause 4.5, the following text is added:

“**THAT** var (formula) The particularizator **THAT** makes a term from a formula. For a formula f , the term “**THAT** x (f)” denotes that entity which, if assigned to x , makes f true. In general, this makes sense only if f contains x as a free variable. If there is not exactly one entity (i.e., none or more than one) satisfying f , the term is undefined. Formally, particularization is characterized by

$$\forall y (y = \text{THAT } x (f) \iff (\exists !x(f) \wedge f_y) \vee (\neg \exists !x(f) \wedge y = \text{UNDEF}))$$

where f_y stands for $\exists x(f \wedge x = y)$, $\exists !x(f)$ stands for $\exists y(f_y \wedge \forall x(f \implies x = y))$, and f is assumed not to contain y as a free variable.”

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The Annex contained on the following pages is to be added to ISO/IEC 8613-10.

Annex F

(normative)

Formal specification of the defaulting mechanism for defaultable attributes

F.1 Introduction

This annex gives a formal specification of the defaulting mechanism for defaultable attributes.

Clause F.2 defines a set of general functions which are used in clause F.3.

Clause F.3 defines a set of functions which describe the derivation of all defaultable attributes in ISO 8613. It is substructured into clauses F.3.1 (defaultable attributes of ISO 8613-2), clauses F.3.2 (defaultable attributes of ISO 8613-6), clauses F.3.3 (defaultable attributes of ISO 8613-7) and clauses F.3.4 (defaultable attributes of ISO 8613-8).

Clause F.4 is an index for the predicate symbols, operator symbols and attribute names used in clauses F.2 and F.3.

F.2 General functions

This clause defines the general functions for determining the values of defaultable attributes according to clause 5.1.2.4 of ISO 8613-2.

Semiformal Description 9.1

Function “ x ORELSE y ”

The function x ORELSE y returns the value x if x is not undefined, otherwise the value y .

Definition 9.1

- 1 $\forall x, y$
- 2 $(_0 x \text{ ORELSE } y =$
- 3 $\text{ IF } x \neq \text{UNDEF THEN } x \text{ ELSE } y_0)$

Semiformal Description 9.2

Function “Attribute value by step BL”

If a layout style is referenced by a constituent cst and if the attribute att is specified for this layout style (3) then its value is the value determined by step BL (4). Otherwise the value is undefined by step BL.

Definition 9.2

- 1 $\forall cst, doby, att$
- 2 $(_0 \text{STEP_BL_VALUE}(cst, doby, att) =$
- 3 $\text{ IF 'layout style' } \in \text{NAMS}^{1.18}(cst) \text{ and } att \in \text{NAMS}^{1.18}(\text{REF_LAY_STYLE}^{9.4}(cst, doby))$
- 4 $\text{ THEN } C \text{ } \neg(\text{REF_LAY_STYLE}^{9.4}(cst, doby)) \cdot att$
- 5 $\text{ ELSE UNDEF}_0)$

Semiformal Description 9.3

Function "Attribute value by step BP"

If a presentation style is referenced by a constituent *cst* and if the attribute *att* is specified for this presentation style (3) then its value is the value determined by step BP (4). Otherwise the value is undefined by step BP.

Definition 9.3

```

1   $\forall cst, doby, att$ 
2  ( $\text{STEP\_BP\_VALUE}(cst, doby, att) =$ 
3    IF 'presentation style'  $\in$  NAMS1.18(cst) and att  $\in$  NAMS1.18(REF_PRES_STYLE9.5(cst, doby))
4    THEN C  $\wedge$  (REF_PRES_STYLE9.5(cst, doby)).att
5    ELSE UNDEFo)

```

Semiformal Description 9.4

Function "Referenced layout style"

If a layout style exists within the document body *doby* for which the value of the attribute 'layout style identifier' is the same as the value of the attribute 'layout style' of a particular constituent *cst* this is called the referenced layout style (3) which is returned by this function. Otherwise, the function returns the empty nomination.

Definition 9.4

```

1   $\forall cst, doby$ 
2  ( $\text{REF\_LAY\_STYLE}(cst, doby) =$ 
3    C  $\wedge$  doby.<IsLayoutStyle2.60(C xs) and C xs. 'layout style identifier' = C  $\wedge$  cst. 'layout style'>
4    ORELSE9.1 [ : ]o)

```

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Semiformal Description 9.5

Function "Referenced presentation style"

If a presentation style exists within the document body *doby* for which the value of the attribute 'presentation style identifier' is the same as the value of the attribute 'presentation style' of a particular constituent *cst* this is called the referenced presentation style (3, 4) which is returned by this function. Otherwise, the function returns the empty nomination.

Definition 9.5

```

1   $\forall cst, doby$ 
2  ( $\text{REF\_PRES\_STYLE}(cst, doby) =$ 
3    C  $\wedge$  doby.<IsPresentationStyle2.61(C xs) and
4    C xs. 'presentation style identifier' = C  $\wedge$  cst. 'presentation style'>
5    ORELSE9.1 [ : ]o)

```

Semiformal Description 9.6

Function “Attribute value by step C”

If an object class is referenced by a constituent *cst* and if the attribute *att* is specified for this object class (3) then its value is the value determined by step C (4). Otherwise the value is undefined by step C.

Definition 9.6

```

1   $\forall cst, doby, att$ 
2  ( $\text{STEP\_C\_VALUE}(cst, doby, att) =$ 
3    IF 'object class'  $\in$  NAMS1.18(cst) and att  $\in$  NAMS1.18(REF_OBJECT_CLASS9.7(cst, doby))
4    THEN C  $\wedge$  (REF_OBJECT_CLASS9.7(cst, doby)) • att
5    ELSE UNDEF0)

```

Semiformal Description 9.7

Function “Referenced object class”

If an object class exists within the document body *doby* for which the value of the attribute 'object class identifier' is the same as the value of the attribute 'object class' of a particular constituent *cst* this is called the referenced object class (3) which is returned by this function. Otherwise, the function returns the empty nomination.

Definition 9.7

```

1   $\forall cst, doby$ 
2  ( $\text{REF\_OBJECT\_CLASS}(cst, doby) =$ 
3    C  $\wedge$  doby • <IsObjectClassDescription2.37(C xs) and C xs • 'object class identifier' = C  $\wedge$  cst • 'object class'>
4    ORELSE9.1 [ : ]0)

```

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Semiformal Description 9.8

Function “Attribute value by step DP”

If an object class is referenced by a constituent *cst*, and a presentation style is referenced by this object class and the attribute *att* is specified for this presentation style (3-5) then its value is the value determined by step DP (6). Otherwise the value is undefined by step DP.

Definition 9.8

```

1   $\forall cst, doby, att$ 
2  ( $\text{STEP\_DP\_VALUE}(cst, doby, att) =$ 
3    IF 'object class'  $\in$  NAMS1.18(cst) and
4      'presentation style'  $\in$  NAMS1.18(REF_OBJECT_CLASS9.7(cst, doby)) and
5      att  $\in$  NAMS1.18(REF_PRES_STYLE9.5(REF_OBJECT_CLASS9.7(cst, doby), doby))
6    THEN C  $\wedge$  (REF_PRES_STYLE9.5(REF_OBJECT_CLASS9.7(cst, doby), doby)) • att
7    ELSE UNDEF0)

```

Semiformal Description 9.9

Function “Attribute value by step DL”

If an object class is referenced by a constituent *cst*, and a layout style is referenced by this object class and the attribute *att* is specified for this layout style (3-5) then its value is the value determined by step DL (6). Otherwise the value is undefined by step DL.

Definition 9.9

```

1   $\forall cst, doby, att$ 
2  ( $\text{STEP\_DL\_VALUE}(cst, doby, att) =$ 
3    IF 'object class'  $\in$  NAMS1.18(cst) and
4      'layout style'  $\in$  NAMS1.18(REF_OBJECT_CLASS9.7(cst, doby)) and
5      att  $\in$  NAMS1.18(REF_LAY_STYLE9.4(REF_OBJECT_CLASS9.7(cst, doby), doby))
6    THEN C  $\sim$ (REF_LAY_STYLE9.4(REF_OBJECT_CLASS9.7(cst, doby), doby)) • att
7    ELSE UNDEF0)

```

Semiformal Description 9.10

Function “Attribute value by step E”

If an object class is referenced by a constituent *cst*, and a (resource) object class in a resource document is referenced by this object class and the attribute *att* is specified for this (resource) object class (3–6) then this attribute value is the value determined by step E (7, 8). Otherwise the value is undefined by step E.

Definition 9.10

```

1   $\forall cst, doby, rdoby, prof, att$ 
2  ( $\text{STEP\_E\_VALUE}(cst, doby, rdoby, prof, att) =$ 
3    IF 'object class'  $\in$  NAMS1.18(cst) and
4      'resource'  $\in$  NAMS1.18(REF_OBJECT_CLASS9.7(cst, doby)) and
5      att  $\in$  NAMS1.18(RESOURCE_OBJECT_CLASS9.11(rdoby,
6        OBJECT_CLASSID_INRES9.12(prof, REF_OBJECT_CLASS9.7(cst, doby))))
7    THEN C  $\sim$ (RESOURCE_OBJECT_CLASS9.11(rdoby,
8      OBJECT_CLASSID_INRES9.12(prof, REF_OBJECT_CLASS9.7(cst, doby)))) • att
9    ELSE UNDEF0)

```

Semiformal Description 9.11

Function “Resource object class”

If an object class exists within the document body *rdoby* (of a resource document) for which the value of the attribute 'object class identifier' corresponds to *objcid*, this is called the resource object class (3) which is returned by this function. Otherwise, the function returns the empty nomination.

Definition 9.11

```

1   $\forall rdoby, objcid$ 
2  ( $\text{RESOURCE\_OBJECT\_CLASS}(rdoby, objcid) =$ 
3    C  $\sim$ rdoby • <IsObjectClassDescription2.37(C xs) and C xs • 'object class identifier' = objcid>
4    ORELSE9.1 [ : ]0)

```


Semiformal Description 9.12

Function “Object class identifier in a resource document”

The object class identifier of an object class in a resource document is determined by the attribute 'resources' in the document profile by taking the second component of that construct in the value of this attribute for which the first component corresponds to the value of the attribute 'resource' for a particular constituent *cst*. If such a construct cannot be found the value of the function is undefined.

Definition 9.12

```

1   $\forall prof, cst$ 
2  ( $\circ$  OBJECT_CLASSID_INRES( $prof, cst$ ) =
3  LASTC1.14 (C  $\sim$   $prof \bullet$  'resources'  $\bullet$  <HEAD1.13(C  $xs$ ) = C  $\wedge$   $cst \bullet$  'resource')  $\bullet$   $\circ$ ))
```

Semiformal Description 9.13

Function “Attribute value by step FP”

If an object class is referenced by a constituent *cst*, and a (resource) object class in a resource document is referenced by this object class, and a presentation style is referenced by the (resource) object class and the attribute *att* is specified for this presentation style (3–8) then this attribute value is the value determined by step FP (9, 10). Otherwise the value is undefined by step FP.

Definition 9.13

```

1   $\forall cst, doby, rdoby, prof, att$ 
2  ( $\circ$  STEP_FP_VALUE( $cst, doby, rdoby, prof, att$ ) =
3  IF 'object class'  $\in$  NAMS1.18( $cst$ ) and
4  'resource'  $\in$  NAMS1.18(REF_OBJECT_CLASS9.7( $cst, doby$ )) and
5  'presentation style'  $\in$  NAMS1.18(RESOURCE_OBJECT_CLASS9.11( $rdoby,$ 
6  OBJECT_CLASSID_INRES9.12( $prof, REF_OBJECT_CLASS$ 9.7( $cst, doby$ )))) and
7   $att \in$  NAMS1.18(RESOURCE_PRES_STYLE9.14( $rdoby,$ 
8  OBJECT_CLASSID_INRES9.12( $prof, REF_OBJECT_CLASS$ 9.7( $cst, doby$ ))))
9  THEN C  $\sim$ (RESOURCE_PRES_STYLE9.14( $rdoby,$ 
10  OBJECT_CLASSID_INRES9.12( $prof, REF_OBJECT_CLASS$ 9.7( $cst, doby$ ))))  $\bullet$   $att$ 
11  ELSE UNDEF $\circ$ )
```

Semiformal Description 9.14

Function “Presentation style in a resource document”

The presentation style in a resource document belonging to an object class with the object class identifier *objcid* is that constituent *rpres* in a resource document *rdoby* which is a presentation style (3, 4) and for which there exists a constituent *rcst* in the resource document (5) such that the value of the attribute 'presentation style identifier' of the presentation style is equal to the value of the attribute 'presentation style' of the constituent *rcst* and the value of the attribute 'object class identifier' of the constituent *rcst* equals *objcid* (6, 7). If such a presentation style cannot be found the resource presentation style is undefined.

Definition 9.14

```

1   $\forall rdoby, objcid$ 
2  ( $_0$  RESOURCE_PRES_STYLE(rdoby, objcid) =
3    THAT rpres
4    ( $_1$  rpres  $\in$  rdoby and IsPresentationStyle2.61(rpres) and
5       $\exists rcst \in rdoby$ 
6      ( $_2$   $C \wedge rpres \cdot$  'presentation style identifier' =  $C \wedge rcst \cdot$  'presentation style' and
7         $C \wedge rcst \cdot$  'object class identifier' = objcid2)1)0)
```

Semiformal Description 9.15

Function “Attribute value by step FL”

If an object class is referenced by a constituent *cst*, and a (resource) object class in a resource document is referenced by this object class, and a layout style is referenced by the (resource) object class and the attribute *att* is specified for this layout style (3–8) then this attribute value is the value determined by step FL (9, 10). Otherwise the value is undefined by step FL.

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Definition 9.15

```

1   $\forall cst, doby, rdoby, prof, att$ 
2  ( $_0$  STEP_FL_VALUE(cst, doby, rdoby, prof, att) =
3    IF 'object class'  $\in$  NAMS1.18(cst) and
4    'resource'  $\in$  NAMS1.18(REF_OBJECT_CLASS9.7(cst, doby)) and
5    'layout style'  $\in$  NAMS1.18(RESOURCE_OBJECT_CLASS9.11(rdoby,
6      OBJECT_CLASSID_INRES9.12(prof, REF_OBJECT_CLASS9.7(cst, doby)))) and
7    att  $\in$  NAMS1.18(RESOURCE_LAY_STYLE9.16(rdoby,
8      OBJECT_CLASSID_INRES9.12(prof, REF_OBJECT_CLASS9.7(cst, doby))))
9    THEN  $C \wedge$  (RESOURCE_LAY_STYLE9.16(rdoby,
10      OBJECT_CLASSID_INRES9.12(prof, REF_OBJECT_CLASS9.7(cst, doby))))  $\cdot att$ 
11    ELSE UNDEF0)
```

Semiformal Description 9.16

Function “Layout style in a resource document”

The layout style in a resource document belonging to an object class with the object class identifier *objcid* is that constituent *rlay* in a resource document *rdoby* which is a layout style (3, 4) and for which there exists a constituent *rcst* in the resource document (5) such that the value of the attribute 'layout style identifier' of the layout style is equal to the value of the attribute 'layout style' of the constituent *rcst* and the value of the attribute 'object class identifier' of the constituent *rcst* equals *objcid* (6, 7). If such a layout style cannot be found the resource layout style is undefined.

Definition 9.16

$$\begin{aligned}
 &1 \quad \forall rdoby, objcid \\
 &2 \quad ({}_0 \text{RESOURCE_LAY_STYLE}(rdoby, objcid) = \\
 &3 \quad \text{THAT } rlay \\
 &4 \quad ({}_1 rlay \in rdoby \text{ \underline{and} } \text{IsLayoutStyle}^{2.60}(rlay) \text{ \underline{and} } \\
 &5 \quad \exists rcst \in rdoby \\
 &6 \quad ({}_2 C \sim rlay \cdot \text{'layout style identifier'} = C \sim rcst \cdot \text{'layout style'} \text{ \underline{and} } \\
 &7 \quad C \sim rcst \cdot \text{'object class identifier'} = objcid_2)_1)_0
 \end{aligned}$$

Semiformal Description 9.17

Function “Attribute value by step G”

If there exists a constituent *sup* in the document body to which the constituent *cst* is immediately subordinate (3) and if the attribute value can be found (in a default value list) on the superior constituent *sup* (3, 4) then this attribute value is the value determined by step G. Otherwise, if a superior constituent exists, the search for the attribute value according to step G is continued (recursively) on the superior constituent *cst* (6). Otherwise, if no superior constituent exists or if the attribute value cannot be found there, the value is undefined by step G.

Definition 9.17

$$\begin{aligned}
 &1 \quad \forall cst, doby, rdoby, prof, att, ctype \\
 &2 \quad ({}_0 \text{STEP_G_VALUE}(cst, doby, rdoby, prof, att, ctype) = \\
 &3 \quad \text{SUPERIOR_VALUE}^{9.18}({}_1 \text{THAT } sup ({}_2 sup \in doby \text{ \underline{and} } (cst)\text{DescribesImSubOf}^{2.152}(sup)_2), \\
 &4 \quad doby, rdoby, prof, att, ctype_1) \\
 &5 \quad \text{ORELSE}^{9.1} \text{STEP_G_VALUE}^{9.17}({}_3 \text{THAT } sup ({}_4 sup \in doby \text{ \underline{and} } (cst)\text{DescribesImSubOf}^{2.152}(sup)_4), \\
 &6 \quad doby, rdoby, prof, att, ctype_3)_0)
 \end{aligned}$$

Semiformal Description 9.18

Function “Superior value”

If the attribute value can be found in the default value list of the constituent *cst*, then this value is returned as the superior value (3). Otherwise, if the constituent refers to an object class (4) and the attribute value can be found in the default value list of the referenced object class, then this value is returned as the superior value (5). Otherwise, if the referenced object class refers to a resource document (6) and the attribute value can be found in the resource default value list of the referenced object class, then this value is returned as the superior value (7). Otherwise the superior value is undefined.

Definition 9.18

```

1   $\forall cst, doby, rdoby, prof, att, ctype$ 
2  ( $_0$  SUPERIOR_VALUE( $cst, doby, rdoby, prof, att, ctype$ ) =
3  DEFAULT_VALUE9.19( $cst, att, ctype, doby$ ) ORELSE9.1
4  ( $_1$  IF 'object class'  $\in$  NAMS1.18( $cst$ )
5  THEN ( $_2$  DEFAULT_VALUE9.19(REF_OBJECT_CLASS9.7( $cst, doby$ ),  $att, ctype, doby$ ) ORELSE9.1
6  ( $_3$  IF 'resource'  $\in$  NAMS1.18(REF_OBJECT_CLASS9.7( $cst, doby$ ))
7  THEN ( $_4$  RES_DEFAULT_VALUE9.21(REF_OBJECT_CLASS9.7( $cst, doby$ ),  $rdoby, prof, att, ctype$ )
8  ORELSE9.1 UNDEF $_4$ )
9  ELSE UNDEF $_3$ ) $_2$ )
10 ELSE UNDEF $_1$ ) $_0$ )

```

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Semiformal Description 9.19

Function “Default value”

If a default value list is specified for the constituent *cst* (4), and default values for the particular type of constituent are specified (5, 6) and a default value for the particular attribute is specified (7, 8) then this value is the default value. Otherwise it is tested whether a style is referenced from the default value list which provides a value for the attribute (9). This function reflects the two cases that one (7) or more (8) sets of default values are specified, i.e., (a) one set is specified for composite object types (7); (b) one or more sets may be specified for basic object types (8).

Definition 9.19

```

1   $\forall cst, att, ctype, doby$ 
2  ( $_0$  DEFAULT_VALUE( $cst, att, ctype, doby$ ) =
3  C ( $_1$  THAT  $a$ 
4  ( $_2$  'default value lists'  $\in$  NAMS1.18( $cst$ ) and
5   $\exists v$ 
6  ( $_3$   $v \in \hat{cst} \cdot$  'default value lists'  $\cdot$  and  $v = ctype$  and
7  ( $_4$  ( $_5$  IsNom(C  $v$ ) and  $a = v \cdot att$ ) $_5$  or
8  ( $_6$  IsCol(C  $v$ ) and  $a = v \cdot att$ ) $_6$ ) $_4$ ) $_3$ ) $_2$ )
9  ORELSE9.1 DEFAULT_VALUE_BY_STYLE9.20( $cst, doby, att, ctype$ ) $_1$ ) $_0$ )

```

Semiformal Description 9.20

Function “Default value by style”

If the attribute 'default value lists' is specified (3), contains an entry for the particular type of constituent (4, 5), there exists a reference to a layout style (7) and this layout style contains the attribute (8), then the value of this attribute is the default value supplied by a style. Similarly, the value may also be supplied by a reference to a presentation style from within a default value list (10–15). This function reflects the two cases that one (10–12) or more (13–15) sets of default values are specified, i.e., (a) one set is specified for composite object types; (b) one or more sets may be specified for basic object types.

Definition 9.20

```

1   $\forall cst, doby, att, ctype$ 
2   $({}_0 \text{DEFAULT\_VALUE\_BY\_STYLE}(cst, doby, att, ctype) =$ 
3    IF 'default value lists'  $\in$   $\text{NAMS}^{1.18}(cst)$  and
4     $\exists v$ 
5     $({}_1 v \in \sim cst \cdot \text{'default value lists'} \cdot \text{and } v = ctype \text{ and}$ 
6       $\exists a$ 
7       $({}_2 (\text{IsNom}(C v) \text{ and } a = v \cdot \text{'layout style'} \text{ and}$ 
8         $att \in \text{NAMS}^{1.18}(\text{REF\_LAY\_STYLE}^{9.4}(C v, doby))$ 
9        THEN  $C \sim (\text{REF\_LAY\_STYLE}^{9.4}(C v, doby)) \cdot att_s) \text{ or}$ 
10      $({}_4 (\text{IsNom}(C v) \text{ and } a = v \cdot \text{'presentation style'} \text{ and}$ 
11        $att \in \text{NAMS}^{1.18}(\text{REF\_PRES\_STYLE}^{9.5}(C v, doby))$ 
12       THEN  $C \sim (\text{REF\_PRES\_STYLE}^{9.5}(C v, doby)) \cdot att_s) \text{ or}$ 
13      $({}_3 (\text{IsCol}(C v) \text{ and } a = v \cdot \text{'presentation style'} \text{ and}$ 
14        $att \in \text{NAMS}^{1.18}(\text{REF\_PRES\_STYLE}^{9.5}(C v, doby))$ 
15       THEN  $C \sim (\text{REF\_PRES\_STYLE}^{9.5}(C v, doby)) \cdot att_s)_1)_0$ 

```

ISO/IEC 8613-10:1991/Amd 5:1993

<https://standards.csi.catalan.es/catalogue/standards/sist/a512d24-f673-4461-8982-36747fe6f794/iso-iec-8613-10-1991-amd-5-1993>

Semiformal Description 9.21

Function “Resource default value”

If a default value is specified in a resource object class referenced by the object class *cst*, then this value is the resource default value. Otherwise the resource default value is undefined.

Definition 9.21

```

1   $\forall cst, rdoby, prof, att, ctype$ 
2   $({}_0 \text{RES\_DEFAULT\_VALUE}(cst, rdoby, prof, att, ctype) =$ 
3     $\text{DEFAULT\_VALUE}^{9.19}(\text{RESOURCE\_OBJECT\_CLASS}^{9.11}(rdoby,$ 
4     $\text{OBJECT\_CLASSID\_INRES}^{9.12}(prof, cst)), att, ctype, rdoby)_0$ 

```

Semiformal Description 9.22

Function “Attribute value by step H”

If the attribute 'document application profile defaults' is specified in the document profile and this attribute specifies a value for the attribute *att* (3) then this is the value determined by step H. Otherwise the value is undefined by step H.

Definition 9.22

```

1   $\forall prof, att$ 
2   $({}_0 \text{STEP\_H\_VALUE}(prof, att) =$ 
3     $C ({}_1 \text{THAT } a ({}_2 a \in \sim prof \cdot \text{'document application profile defaults'} \text{ and } N a = att_2)_1)_0$ 

```

Semiformal Description 9.23

Function “Parameter value by step BL”

If a layout style is referenced by a constituent *cst* and if the attribute *att* is specified for this layout style (3) and if the parameter *par* is specified for this attribute (4), then its value is the value determined by step BL (5). Otherwise the value is undefined by step BL.

Definition 9.23

```

1   $\forall cst, doby, att, par$ 
2  ( $_0$  STEP_BL_PAR_VALUE(cst, doby, att, par) =
3    IF 'layout style'  $\in$  NAMS1.18(cst) and  $att \in$  NAMS1.18(REF_LAY_STYLE9.4(cst, doby)) and
4       $par \in$  NAMS1.18(C  $\wedge$  REF_LAY_STYLE9.4(cst, doby)  $\cdot att$ )
5    THEN C  $\wedge$  (REF_LAY_STYLE9.4(cst, doby)  $\cdot att \cdot par$ 
6    ELSE UNDEF0)

```

Semiformal Description 9.24

Function “Parameter value by step C”

If an object class is referenced by a constituent *cst* and if the attribute *att* is specified for this object class (3) and if the parameter *par* is specified for the attribute (4), then its value is the value determined by step C (5). Otherwise the value is undefined by step C.

Definition 9.24

```

1   $\forall cst, doby, att, par$ 
2  ( $_0$  STEP_C_PAR_VALUE(cst, doby, att, par) =
3    IF 'object class'  $\in$  NAMS1.18(cst) and  $att \in$  NAMS1.18(REF_OBJECT_CLASS9.7(cst, doby)) and
4       $par \in$  NAMS1.18(C  $\wedge$  REF_OBJECT_CLASS9.7(cst, doby)  $\cdot att$ )
5    THEN C  $\wedge$  (REF_OBJECT_CLASS9.7(cst, doby)  $\cdot att \cdot par$ 
6    ELSE UNDEF0)

```

Semiformal Description 9.25

Function “Parameter value by step DL”

If an object class is referenced by a constituent *cst*, and a layout style is referenced by this object class and the attribute *att* is specified for this layout style (3-5) and the parameter *par* is specified for this attribute (6), then its value is the value determined by step DL (7). Otherwise the value is undefined by step DL.

Definition 9.25

```

1   $\forall cst, doby, att, par$ 
2  ( $_0$  STEP_DL_PAR_VALUE(cst, doby, att, par) =
3    IF 'object class'  $\in$  NAMS1.18(cst) and
4      'layout style'  $\in$  NAMS1.18(REF_OBJECT_CLASS9.7(cst, doby)) and
5       $att \in$  NAMS1.18(REF_LAY_STYLE9.4(REF_OBJECT_CLASS9.7(cst, doby), doby)) and
6       $par \in$  NAMS1.18(C  $\wedge$  REF_LAY_STYLE9.4(REF_OBJECT_CLASS9.7(cst, doby), doby)  $\cdot att$ )
7    THEN C  $\wedge$  (REF_LAY_STYLE9.4(REF_OBJECT_CLASS9.7(cst, doby), doby)  $\cdot att \cdot par$ 
8    ELSE UNDEF0)

```

Semiformal Description 9.26

Function “Parameter value by step E”

If an object class is referenced by a constituent *cst*, and a (resource) object class in a resource document is referenced by this object class and the attribute *att* is specified for this (resource) object class (3–6) and the parameter *par* is specified for this attribute (7, 8) then this attribute value is the value determined by step E (9, 10). Otherwise the value is undefined by step E.

Definition 9.26

```

1   $\forall cst, doby, rdoby, prof, att, par$ 
2  ( $\text{STEP\_E\_PAR\_VALUE}(cst, doby, rdoby, prof, att, par) =$ 
3  IF 'object class'  $\in$   $\text{NAMS}^{1.18}(cst)$  and
4  'resource'  $\in$   $\text{NAMS}^{1.18}(\text{REF\_OBJECT\_CLASS}^{9.7}(cst, doby))$  and
5   $att \in \text{NAMS}^{1.18}(\text{RESOURCE\_OBJECT\_CLASS}^{9.11}(rdoby,$ 
6   $\text{OBJECT\_CLASSID\_INRES}^{9.12}(prof, \text{REF\_OBJECT\_CLASS}^{9.7}(cst, doby))))$  and
7   $par \in \text{NAMS}^{1.18}(C \text{ ^-RESOURCE\_OBJECT\_CLASS}^{9.11}(rdoby,$ 
8   $\text{OBJECT\_CLASSID\_INRES}^{9.12}(prof, \text{REF\_OBJECT\_CLASS}^{9.7}(cst, doby))) \cdot att)$ 
9  THEN  $C \text{ ^-}(\text{RESOURCE\_OBJECT\_CLASS}^{9.11}(rdoby,$ 
10  $\text{OBJECT\_CLASSID\_INRES}^{9.12}(prof, \text{REF\_OBJECT\_CLASS}^{9.7}(cst, doby)))) \cdot att \cdot par$ 
11 ELSE UNDEF0)
```

Semiformal Description 9.27

Function “Parameter value by step FL”

If an object class is referenced by a constituent *cst*, and a (resource) object class in a resource document is referenced by this object class, and a layout style is referenced by the (resource) object class and the attribute *att* is specified for this layout style (3–8) and the parameter *par* is specified for this attribute (9, 10), then this attribute value is the value determined by step FL (11, 12). Otherwise the value is undefined by step FL.

Definition 9.27

```

1   $\forall cst, doby, rdoby, prof, att, par$ 
2  ( $\text{STEP\_FL\_PAR\_VALUE}(cst, doby, rdoby, prof, att, par) =$ 
3  IF 'object class'  $\in$   $\text{NAMS}^{1.18}(cst)$  and
4  'resource'  $\in$   $\text{NAMS}^{1.18}(\text{REF\_OBJECT\_CLASS}^{9.7}(cst, doby))$  and
5  'layout style'  $\in$   $\text{NAMS}^{1.18}(\text{RESOURCE\_OBJECT\_CLASS}^{9.11}(rdoby,$ 
6   $\text{OBJECT\_CLASSID\_INRES}^{9.12}(prof, \text{REF\_OBJECT\_CLASS}^{9.7}(cst, doby))))$  and
7   $att \in \text{NAMS}^{1.18}(\text{RESOURCE\_LAY\_STYLE}^{9.16}(rdoby,$ 
8   $\text{OBJECT\_CLASSID\_INRES}^{9.12}(prof, \text{REF\_OBJECT\_CLASS}^{9.7}(cst, doby))))$  and
9   $par \in \text{NAMS}^{1.18}(C \text{ ^-RESOURCE\_LAY\_STYLE}^{9.16}(rdoby,$ 
10  $\text{OBJECT\_CLASSID\_INRES}^{9.12}(prof, \text{REF\_OBJECT\_CLASS}^{9.7}(cst, doby))) \cdot att)$ 
11 THEN  $C \text{ ^-}(\text{RESOURCE\_LAY\_STYLE}^{9.16}(rdoby,$ 
12  $\text{OBJECT\_CLASSID\_INRES}^{9.12}(prof, \text{REF\_OBJECT\_CLASS}^{9.7}(cst, doby)))) \cdot att \cdot par$ 
13 ELSE UNDEF0)
```