UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS

UIT-T T.415

SECTEUR DE LA NORMALISATION
DES TÉLÉCOMMUNICATIONS
DE L'UIT

(03/93)

SERVICES TÉLÉMATIQUES

ÉQUIPEMENTS TERMINAUX ET PROTOCOLES POUR LES SERVICES TÉLÉMATIQUES

TECHNOLOGIE DE L'INFORMATION – ARCHITECTURE DE DOCUMENT OUVERTE ET FORMAT DE TRANSFERT:

FORMAT OUVERT D'ÉCHANGE DES DOCUMENTS

Recommandation UIT-T T.415

(Antérieurement «Recommandation du CCITT»)

AVANT-PROPOS

L'UIT (Union internationale des télécommunications) est une institution spécialisée des Nations Unies dans le domaine des télécommunications. L'UIT-T (Secteur de la normalisation des télécommunications) est un organe permanent de l'UIT. Au sein de l'UIT-T, qui est l'entité qui établit les normes mondiales (Recommandations) sur les télécommunications, participent quelque 179 pays membres, 84 exploitations de télécommunications reconnues, 145 organisations scientifiques et industrielles et 38 organisations internationales.

L'approbation des Recommandations par les Membres de l'UIT-T s'effectue selon la procédure définie dans la Résolution n° 1 de la Conférence mondiale de normalisation des télécommunications (CMNT) (Helsinki, 1993). De plus, la CMNT, qui se réunit tous les quatre ans, approuve les Recommandations qui lui sont soumises et établit le programme d'études pour la période suivante.

Dans certains secteurs de la technologie de l'information qui correspondent à la sphère de compétence de l'UIT-T, les normes nécessaires se préparent en collaboration avec l'ISO et la CEI. Le texte de la Recommandation T.415 de l'UIT-T a été approuvé par la CMNT (Helsinki, 1er-12 mars 1993). Son texte est publié, sous forme identique, comme Norme internationale ISO/CEI 8613-5.

_____

NOTES

1   A la suite de la restructuration de l'Union internationale des télécommunications (UIT), le CCITT a cessé d'exister le 28 février 1993. Le Secteur de la normalisation des télécommunications de l'UIT fut créé en ses lieu et place le 1er mars 1993. Au cours de cette restructuration, le CCIR et l'IFRB ont été également remplacés par le Secteur des radiocommunications de l'UIT.

Afin de ne pas retarder la publication de la présente Recommandation, aucune correction n'a été apportée dans le texte aux références contenant les expressions CCITT, CCIR ou IFRB ou le nom de leurs entités connexes telles que Assemblée plénière, Secrétariat spécialisé, etc. Les prochaines versions de la présente Recommandation utiliseront la terminologie appropriée relative à la nouvelle structure de l'UIT.

2   Dans la présente Recommandation, l'expression «Administration» est utilisée pour désigner de façon abrégée aussi bien une administration de télécommunications qu'une exploitation reconnue.

TABLE DES MATIÈRES

Introduction

La présente Recommandation UIT-T | Norme internationale a été élaborée conjointement par la Commission d'études 8 de l'UIT-T et le Comité technique mixte JTC 1 de l'ISO/CEI.

Actuellement, les Recommandations de la série UIT-T T.410 | ISO/CEI 8613 comportent les titres suivants:

- introduction et principes généraux;
- structures des documents;
- profil de document;
- format ouvert de transfert de documents;
- architecture de contenu de type caractères;
- architecture de contenu graphique en points;
- architecture de contenu graphique géométrique;
- spécifications formelles de l'architecture des documents ouverte (FODA) (*formal specification of the open document architecture*).

  (Les spécifications formelles ne sont applicables qu'à l'ISO/CEI 8613.)

D'autres Recommandations | Normes internationales pourront compléter cette liste.

A l'origine, cette série de Recommandations | Normes internationales a été élaborée parallèlement à la Norme 101 de l'ECMA: *Architecture de document ouverte.*

Il s'agit d'une nouvelle édition des Recommandations de la série T.410 du CCITT (1988) et de l'ISO/CEI 8613 (1989).

Les principales modifications techniques décidées par l'UIT-T et l'ISO/CEI portent sur les points suivants:

- variante de représentation;
- utilisation du MHS/MOTIS (annexe);
- couleur;
- tests de conformité (annexe);
- profil d'application de document, formulaire et notation associés;
- sécurité;
- flux d'information;
- styles;
- contenu graphique en pavés.

De plus, un certain nombre de rectificatifs techniques ont été apportés.

La présente Recommandation | Norme internationale comporte sept annexes:

- Annexe A (non intégrale): Représentation codée;
- Annexe B (non intégrale): Assignation d'étiquettes de la classe application;
- Annexe C (non intégrale): Récapitulation des identificateurs d'objet;
- Annexe D (non intégrale): Exemples;
- Annexe E (intégrale): Open Document Language (ODL) (Cette annexe ne s'applique qu'à l'ISO/CEI 8613-5);
- Annexe F (non intégrale): Examples of Open Document Language Representations. (Cette annexe ne s'applique qu'à l'ISO/CEI 8613-5);
- Annexe G (non intégrale): Utilisation du codage de type élaboré ou canonique.

NORME INTERNATIONALE

RECOMMANDATION UIT-T

TECHNOLOGIE DE L'INFORMATION – ARCHITECTURE DE DOCUMENT OUVERTE ET FORMAT DE TRANSFERT: FORMAT OUVERT D'ÉCHANGE DES DOCUMENTS

1 Domaine d'application

Les Recommandations UIT-T de la série T.410 | ISO/CEI 8613 visent à faciliter l'échange de documents.

Dans le cadre de ces Recommandations | Normes internationales, par documents on entend des mémorandums, des lettres, des factures, des formulaires et des rapports pouvant inclure des images et des tableaux. Les éléments de contenu utilisés à l'intérieur des documents peuvent inclure des caractères graphiques, des éléments graphiques géométriques et des éléments graphiques en points qui peuvent tous faire partie d'un même document.

> NOTE – Ces Recommandations | Normes internationales sont conçues de manière à permettre des extensions, concernant notamment les caractéristiques des hypermédias, les tableurs et des types additionnels de contenu (son et vidéo par exemple).

L'architecture de document ouverte (ODA) (*open document architecture*) fournit, outre les types de contenu définis dans ces Recommandations | Normes internationales, des types de contenu arbitraires destinés à être inclus dans les documents.

Ces Recommandations | Normes internationales s'appliquent à l'échange de documents au moyen de transmissions de données ou de l'échange de supports de stockage.

Ces Recommandations | Normes internationales concernent l'échange de documents pour l'une ou l'autre des fins suivantes:

– permettre la présentation voulue par l'expéditeur;

– permettre un traitement tel que l'édition ou le reformatage.

La composition d'un document destiné à l'échange peut revêtir des formes diverses:

– forme formatée, qui permet la présentation du document;

– forme retraitable, qui permet le traitement du document;

– forme retraitable formatée, qui permet à la fois la présentation et le traitement du document.

Ces Recommandations | Normes internationales prévoient également l'échange d'informations de structures ODA utilisées pour le traitement des documents échangés.

La présente Recommandation | Norme internationale définit:

– le format du flot de données utilisé pour échanger des documents structurés conformément aux dispositions de la Rec. UIT-T T.412 | ISO/CEI 8613-2;

– la représentation des constituants qui peuvent apparaître dans un document échangé.

NOTES

1 La présente Recommandation UIT-T | Norme internationale ne spécifie pas la représentation codée des éléments de contenu.

2 Les formats de données des attributs de présentation et des attributs de codage sont définis dans d'autres Recommandations UIT-T | Normes internationales de la série T.410 | ISO/CEI 8613.

2 Références normatives

Les Recommandations et les Normes internationales suivantes contiennent des dispositions qui, par suite de la référence qui y es faite, constituent des dispositions valables pour la présente Recommandation | Norme internationale. Au moment de la publication, les éditions indiquées étaient en vigueur. Toute Recommandation ou Norme internationale est

sujette à révision et les parties prenantes aux accords fondés sur la présente Recommandation | Norme internationale sont invitées à rechercher la possibilité d'appliquer les éditions les plus récentes des Recommandations et Normes internationales indiquées ci-après. Les membres de la CEI et de l'ISO possèdent le registres des Normes internationales en vigueur. Le Bureau de la normalisation des télécommunications de l'UIT tient à jour une liste des Recommandations UIT-T en vigueur.

2.1 Recommandations | Normes internationales identiques

– Recommandation UIT-T T.411 (1993) | ISO/CEI 8613-1:1994, *Technologie de l'information – Architecture de document ouverte et format d'échange – Introduction et principes généraux.*

– Recommandation UIT-T T.412 (1993) | ISO/CEI 8613-2:1994, *Technologie de l'information – Architecture de document ouverte et format d'échange – Structures des documents.*

– Recommandation UIT-T T.414 (1993) | ISO/CEI 8613-4:1994, *Technologie de l'information – Architecture de document ouverte et format d'échange – Profil d'un document.*

– Recommandation UIT-T T.416 (1993) | ISO/CEI 8613-6:1994, *Technologie de l'information – Architecture de document ouverte et format d'échange – Architectures de contenu de caractère.*

– Recommandation UIT-T T.417 (1993) | ISO/CEI 8613-7:1994, *Technologie de l'information – Architecture de document ouverte et format d'échange – Architectures de contenu graphique en points.*

– Recommandation UIT-T T.418 (1993) | ISO/CEI 8613-8:1994, *Technologie de l'information – Architecture de document ouverte et format d'échange – Architectures de contenu graphique géométrique.*

– Recommandation UIT-T X.209-3[1] | ISO/CEI 8825-3: ...[1], *Technologie de l'information – Interconnexion de systèmes ouverts – Spécification de règles de codage de l'ASN.1.*

– Recommandation UIT-T X.509 (1993) | ISO/CEI 9594-8:1994, *L'annuaire: Cadre de l'authentification.*

2.2 Paires de Recommandations | Normes internationales équivalentes par leur contenu technique

– Recommandation X.208 du CCITT (1988), *Spécification de la syntaxe abstraite numéro un (ASN.1).*

ISO/CEI 8824:1990, *Technologie de l'information – Interconnexion de systèmes ouverts – Spécification de la notation de syntaxe abstraite numéro un (ASN.1).*

– Recommandation X.209 du CCITT (1988), *Spécification de règles de codage pour la notation de syntaxe abstraite numéro un (ASN.1).*

ISO/CEI 8825:1990, *Technologie de l'information – Interconnexion de systèmes ouverts – Spécification de règles de base pour coder la notation de syntaxe abstraite numéro un (ASN.1).*

2.3 Références additionnelles

– ISO 2022:1986, *Traitement de l'information – Jeux ISO de caractères codés à 7 et à 8 éléments – Techniques d'extension de code.*

– ISO 8601:1988, *Eléments de données et formats d'échange – Echange d'informations – Représentation de dates et d'heures.*

– ISO/CEI 8613-10:1991, *Technologie de l'information – Architecture de document ouverte (ODA) et format d'échange – Partie 10: Spécification formelle.*

– ISO 8879:1986, *Traitement de l'information – Systèmes bureautiques – Langage normalisé de balisage généralisé (SGML).*

– ISO 9069:1988, *Traitement de l'information – Facilités de support SGML – Format d'échange de documents SGML (SDIF).*

– ISO/CEI 9541-2:1991, *Technologie de l'information – Echange d'informations sur les polices de caractères – Partie 2: Format d'échange.*

---

[1] Actuellement à l'état de projet.

3 Définitions

Aux fins de la présente Recommandation | Norme internationale, les définitions données dans la Rec. UIT-T T.411 | ISO/CEI 8613-1 sont applicables.

Les définitions données dans les Recommandations X.208 du CCITT | ISO/CEI 8824 et X.209 du CCITT | ISO/CEI 8825 sont aussi applicables à la présente Recommandation | Norme internationale.

4 Abréviations

Pour les besoins de la présente Spécification, les abréviations données dans la Rec. UIT-T T.411 | ISO/CEI 8613-1 s'appliquent.

Les abréviations ci-dessous s'appliquent elles aussi à la présente Recommandation | Norme internationale:

DTD   Définition de type de document (*document type definition*)

EOC   Fin de contenu (*end of contents*)

GI   Identificateur générique SGML (*SGML generic identifier*)

IA5   Alphabet international n° 5 (*international alphabet No. 5*)

ID   Identificateur unique SGML (*SGML unique identifier*)

LIT   Début ou fin littéral (*literal start or end*)

LITA   Début ou fin littéral (de remplacement) [*(literal start or end) (alternative)*]

LPD   Définition de processus de liaison (*link process definition*)

OSI   Interconnexion de systèmes ouverts (*open systems interconnection*)

ULA   Applications de couche supérieure (*upper layer applications*)

UTC   Temps universel coordonné (*coordinated universal time*)

5 Conventions

Aux fins de la présente Spécification, les conventions figurant dans la Rec. UIT-T T.411 | ISO/CEI 8613-1 sont applicables.

6 Représentations des documents

Un document structuré conformément aux Rec. UIT-T de la série T.410 | ISO/CEI 8613 est représenté pour l'échange par le format ouvert d'échange de documents (ODIF) ou par le langage de document ouvert (ODL) avec le format d'échange de documents SGML (SDIF). Les représentations ODIF et ODL/SDIF sont techniquement équivalentes; un document peut être transformé de l'une dans l'autre sans perte d'information sémantique sur ses éléments constitutifs et ses attributs.

L'utilisation d'ODL et SDIF n'est applicable qu'à l'ISO/CEI 8613.

NOTE – Les représentations ODIF et ODL ont toutes deux été normalisées de manière à répondre aux besoins de représentation de documents dans différents environnements d'application. L'ODIF étant une structure de données spécifiée à l'aide de l'ASN.1 est surtout destinée à être utilisée dans un environnement OSI. L'ODL convient particulièrement à des systèmes qui partagent l'information grâce à des fichiers de textes balisés, surtout lorsque des utilisateurs humains peuvent accéder directement au balisage.

6.1 ODIF

ODIF est une syntaxe de données abstraite dans laquelle les constituants et les attributs du document sont représentés par une hiérarchie de structures de données et d'éléments de données spécifiés à l'aide de la notation de syntaxe abstraite ASN.1, définie dans la Rec. X.208 du CCITT | ISO/CEI 8824.

La représentation codée de chaque structure de données ou élément de données est obtenue en appliquant un ensemble de règles de codage.

ODIF est spécifiée à l'article 7.

NOTE – ASN.1 est une méthode de description formelle qui permet que des types de données applicables pour une application soient spécifiés en termes d'autres types de données, y compris les types de données de base tels que «les nombres entiers» et «les chaînes d'octets» qui sont définis dans la Rec. X.208 du CCITT | ISO/CEI 8824. Les règles de codage de base ASN.1 sont définies dans la Rec. X.209 du CCITT | ISO/CEI 8825 et résumées dans l'Annexe A.

6.2 ODL et SDIF

L'utilisation d'ODL et SDIF ne s'applique qu'à l'ISO/CEI 8613.

ODL est un langage dans lequel les éléments constitutifs et les attributs du document sont identifiés par des étiquettes descriptives et sont groupés en une ou plusieurs entités de stockage (par exemple fichiers), selon les besoins de l'utilisateur.

Pour l'échange, chaque entité ODL est représentée sous la forme d'une structure de données ou d'un élément de données unique, spécifié à l'aide de l'ASN.1, dans un flot de données construit selon le format d'échange de documents SGML défini dans l'ISO 9069.

ODL est spécifié dans l'Annexe E.

> NOTE – ODL est une application SGML conforme à ISO 8879.

7 Format ouvert d'échange de documents (ODIF)

7.1 Description générale

Un document structuré conformément aux Recommandations UIT-T de la série T.410 | ISO/CEI 8613 est représenté par un flot de données se composant d'une ou de plusieurs structures de données des types suivants:

–   descripteur de profil de document;

–   descripteur d'objet physique;

–   descripteur de classe d'objets physiques;

–   descripteur d'objet logique;

–   descripteur de classe d'objets logiques;

–   descripteur de style de présentation;

–   descripteur de style de formatage;

–   unités de texte;

–   descripteur de profil de document encapsulé;

–   descripteur de profil de document codé;

–   descripteur de partie de corps de document précodé;

–   descripteur de partie de corps de document postcodé.

Ces structures sont appelées *éléments de données d'échange*. A l'intérieur d'un flot de données, les éléments de données d'échange sont ordonnés selon certaines règles qui sont spécifiées ci-dessous. La présente Spécification définit deux ensembles de règles de ce type, appelés *classe de format d'échange A* et *classe de format d'échange B*.

Celui de ces ensembles de règles qui s'applique à un flot de données déterminé est indiqué dans le descripteur de profil de document. Dans tous les cas, un flot de données contient un (et seulement un) descripteur de profil de document qui est toujours le premier élément de données d'échange du flot de données. Le descripteur de profil de document peut être la seule structure de données dans le flot de données.

Lorsqu'un flot de données ODIF est utilisé comme partie d'un type de données externes ASN.1, la syntaxe abstraite doit être formée par un **SEQUENCE OF** type ASN.1 se référant au type d'**élément de données d'échange (Interchange-Data-Element)**; le codage de la valeur des données se compose d'un nombre entier d'octets, formé en appliquant les règles de codage de base ASN.1, et la valeur de l'identificateur d'objet ASN.1 associé est de { **2 8 0 0** }.

> NOTE – La manière selon laquelle les éléments de données d'échange, ou le type de données externes, sont incorporés dans un protocole d'application ou celle dont on établit leur équivalence avec des unités de données de service (dans un environnement OSI) ne sont pas définies dans la présente Spécification.

7.2 Classe de format d'échange A

Selon la classe de format d'échange A, un flot de données se compose d'un descripteur de profil de document et, facultativement, d'un ou de plusieurs éléments de données d'échange appartenant aux types suivants:

- descripteur d'objet physique;
- descripteur de classe d'objets physiques;
- descripteur d'objet logique;
- descripteur de classe d'objets logiques;
- descripteur de style de présentation;
- descripteur de style de formatage;
- unités de texte;
- descripteur de profil de document encapsulé;
- descripteur de profil de document codé;
- descripteur de partie de corps de document précodé;
- descripteur de partie de corps de document postcodé.

Les éléments de données d'échange se présentent dans l'ordre suivant:

a) descripteur de profil de document;

b) descripteurs de classe d'objets physiques;

c) descripteurs de classe d'objets logiques;

d) unités de texte représentant des portions de contenu génériques;

e) descripteurs de style de présentation;

f) descripteurs de style de formatage;

g) descripteurs d'objets physiques;

h) descripteurs d'objets logiques;

i) unités de texte représentant des portions de contenu génériques;

j) descripteurs de profil de document encapsulé;

k) descripteurs de profil de document codé;

l) descripteurs de partie de corps de document précodé;

m) descripteurs de partie de corps de document postcodé.

A l'intérieur de chacun des groupes de descripteurs d'objets physiques et de descripteurs d'objets logiques, l'ordre des descripteurs est égal à l'ordre séquentiel défini dans la Rec. UIT-T T.412 | ISO/CEI 8613-2.

Si le flot de données contient des descripteurs d'objets physiques, les unités de texte représentant des portions de contenu spécifiques se présentent conformément à l'ordre physique séquentiel; dans le cas contraire, elles se présentent dans l'ordre logique séquentiel.

A l'intérieur de chacun des autres groupes d'éléments de données d'échange, l'ordre est arbitraire.

S'agissant d'objets de base pour lesquels des descriptions de remplacement ont été spécifiées, il existe un descripteur représentant la description primaire et un descripteur pour chaque description de remplacement. Dans le flot de données, les descripteurs utilisés pour les descriptions de remplacement des descriptions d'objets de base suivent immédiatement les descripteurs utilisés pour leur description primaire, dans l'ordre décroissant de préférence. Les unités de texte représentant les portions de contenu associées aux sous-arborescences de remplacement suivent immédiatement les unités de texte représentant les portions de contenu associées à la sous-arborescence primaire, dans l'ordre décroissant de préférence.

7.3 Classe de format d'échange B

Dans la classe de format d'échange B, un flot de données se compose d'un descripteur de profil de document et, facultativement, d'un ou de plusieurs éléments de données d'échange des types suivants:

- descripteur d'objet physique;
- descripteur de classe d'objets physiques;
- descripteur de style de présentation;

–   unités de texte;

–   descripteur de profil de document encapsulé;

–   descripteur de profil de document codé;

–   descripteur de partie de corps de document postcodé.

La classe de format d'échange B peut être utilisée uniquement pour représenter des documents ne contenant aucune structure logique spécifique ou générique, c'est-à-dire des documents qui soient conformes à la classe d'architecture formatée.

NOTE – La classe de format d'échange B est prévue seulement pour être utilisée avec le profil d'application de document pour l'échange de télécopie de groupe 4, comme indiqué dans la Rec. T.503 du CCITT.

L'ordre des éléments de données d'échange est le suivant:

a)   descripteur de profil de document;

b)   descripteurs de classe d'objets physiques et unités de texte associées;

c)   descripteurs de style de présentation;

d)   descripteurs d'objets physiques et unités de texte associées;

e)   descripteurs de profil de document encapsulé;

f)   descripteurs de profil de document codé;

g)   descripteurs de partie de corps de document postcodé.

A l'intérieur du groupe de descripteurs de classe d'objets physiques et des unités de texte associées, l'ordre est tel qu'un groupe de descripteurs qui ont des identificateurs identiques, exception faite de leur dernier numéro, se suivent dans le flot de données sans être séparés par d'autres descripteurs. Mais, chaque descripteur d'une classe d'objets correspondant à un objet physique de base est immédiatement suivi des unités de texte associées.

A l'intérieur du groupe des descripteurs des objets physiques et des unités de texte associées, l'ordre des descripteurs est égal à l'ordre séquentiel défini dans la Rec. UIT-T T.412 | ISO/CEI 8613-2. Mais chaque descripteur d'objet physique de base est immédiatement suivi des unités de texte associées.

A l'intérieur du groupe des descripteurs de style de présentation, l'ordre est arbitraire.

7.4   Descripteurs et unités de texte

Un descripteur de profil de document, un descripteur d'objet physique, un descripteur de classe d'objets physiques, un descripteur d'objet logique, un descripteur de classe d'objets logiques, un descripteur de style de présentation, un descripteur de style de formatage, un descripteur de profil de document encapsulé, un descripteur de profil de document codé, un déchiffreur de partie de corps de document précodé ou un descripteur de partie de corps de document postcodé se composent d'éléments de données simples et composés représentant les attributs des constituants concernés.

Le profil de document, chaque classe d'objets, chaque style, chaque objet et chaque partie protégée sont représentés par un descripteur.

Une unité de texte se compose de deux parties:

a)   un champ attributs, c'est-à-dire une structure de données se composant d'éléments de données simples et composés représentant les attributs de la portion de contenu considérée;

b)   un champ information, c'est-à-dire une structure de données qui est soit un élément de données, soit un ensemble d'éléments de données représentant les éléments de contenu qui constituent la portion de contenu considérée.

Chaque portion de contenu est représentée par une unité de texte.

Les formats de données des éléments de données d'échange sont spécifiés aux 7.6 à 7.15 au moyen de la notation de syntaxe abstraite ASN.1 définie dans la Rec. X.208 du CCITT | ISO/CEI 8824.

NOTE – Les paragraphes 7.6 à 7.15 ne définissent pas complètement par eux-mêmes le format du flot de données; des règles additionnelles sont spécifiées aux 7.1 à 7.5 de la présente Spécification et dans d'autres Spécifications, dans les Rec. UIT-T de la série T.410 | ISO/CEI 8613. Par exemple, le mot clé **OPTIONAL** indique simplement qu'une structure de données particulière ou qu'un élément de données particulier ne fait pas partie de chaque instance de la structure de données contenante; les conditions qui régissent la présence ou l'absence de la structure de données ou de l'élément de données sont spécifiées dans la Rec. UIT-T T.412 ou T.414 | ISO/CEI 8613-2 ou 8613-4.

7.5 Codage et cryptographie ASN.1

7.5.1 Informations codées

Après codage, les parties du corps de document ou les parties du profil de document forment un nouvel élément constitutif du document, composé d'un identificateur et des informations codées. Celles-ci sont du type **OCTET STRING (CHAÎNE D'OCTETS)**, ASN.1, dont la valeur reste constante pendant le transfert.

7.5.2 Informations encapsulées

Les attributs de sécurité ODA et les parties de document ODA sont définis dans l'ASN.1. L'utilisation des règles du codage élaboré ou canonique ASN.1 assure un codage unique. Ces règles sont définies dans la Rec. UIT-T X.209-3 | ISO/CEI 8825-3. L'Annexe G, quant à elle, fournit certaines informations sur leur utilisation. Les règles du codage élaboré ou canonique spécifient un ensemble de restrictions applicables aux règles du codage ASN.1 de base, qui établissent elles-mêmes la correspondance entre les éléments de l'ASN.1 et leur représentation (ce qui est nécessaire pour la cryptographie).

La principale différence entre les règles du codage élaboré et les règles du codage canonique réside dans le fait que les premières utilisent un codage de longueur définie alors que les secondes utilisent un codage de longueur indéfinie. Les règles du codage élaboré sont mieux appropriées si la valeur codée est assez petite pour entrer dans la mémoire disponible et s'il est nécessaire de sauter rapidement certaines valeurs imbriquées. Les règles du codage canonique sont mieux appropriées s'il est nécessaire de coder des valeurs tellement grandes qu'elles ne peuvent entrer aisément dans la mémoire disponible ou s'il est nécessaire de coder et transmettre une partie de la valeur avant que la valeur totale soit disponible.

Les parties du profil de document et du corps de document susceptibles d'être encapsulées resteront inchangées après le processus d'encapsulage. L'utilisation des règles du codage élaboré ou canonique ASN.1 garantit que le destinataire pourra utiliser le même type de codage pour les informations que l'auteur pendant le processus d'encapsulage, ce qui est nécessaire pour obtenir des empreintes identiques d'informations, c'est-à-dire pour pouvoir associer le contenu à la capsule.

La capsule est composée d'un ensemble de données. Trois étapes de base sont nécessaires pour la produire:

- a) l'information choisie (codée selon les règles du codage élaboré ou canonique ASN.1, selon l'attribut de profil de document «codage d'information encapsulée») est introduite dans un processus de découpage qui produit une empreinte, sous la forme d'**OCTET STRING**;

- b) on appelle **information encapsulée** (**Sealed-Information**) l'ensemble constitué de l'empreinte et des informations facultatives complémentaires. Les paramètres facultatifs sont la date et l'heure, selon ISO 8601, le nom et la localisation de l'auteur de la capsule. Ces éléments (à nouveau codés selon les règles du codage élaboré ou canonique ASN.1, selon l'attribut de profil de document «codage d'information encapsulée») sont introduits dans un processus de cryptographie qui produit la capsule. La forme codée de la capsule est **OCTET STRING**;

- c) fournir des informations sur la méthode d'encapsulage de façon à pouvoir vérifier la capsule. Ces éléments sont spécifiés dans la **méthode d'encapsulage (Seal-Method)** et comprennent les informations relatives à la fois à l'obtention de l'empreinte et à la méthode de décodage de la capsule.

L'ordre des constituants est l'ordre spécifié par la classe de format d'échange.

Lorsque l'ordre des constituants n'est pas entièrement spécifié par la classe de format d'échange, les règles suivantes s'appliquent:

- les classes d'objet sont encapsulées dans l'ordre de spécification indiqué par le paramètre «constituants encapsulés»;

- en ce qui concerne la classe de format d'échange A, les portions de contenu communes sont encapsulées dans l'ordre des classes d'objet correspondantes;

- les styles de présentation sont encapsulés dans l'ordre de spécification indiqué par le paramètre «constituants encapsulés»;

- les styles de mise en page sont encapsulés dans l'ordre de spécification indiqué par le paramètre «constituants encapsulés».

7.6 Eléments de données d'échange

Interchange-Data-Elements { 2 8 1 5 5 }

DEFINITIONS ::= BEGIN

EXPORTS Interchange-Data-Element;

IMPORTS Document-Profile-Descriptor
        FROM Document-Profile-Descriptor *-- voir 7.7*
        Layout-Class-Descriptor, Layout-Object-Descriptor
        FROM Layout-Descriptors *-- voir 7.9*
        Logical-Class-Descriptor, Logical-Object-Descriptor
        FROM Logical-Descriptors *-- voir 7.10*
        Presentation-Style-Descriptor, Layout-Style-Descriptor
        FROM Style-Descriptors *-- voir 7.11*
        Text-Unit
        FROM Text-Units *-- voir 7.13*
        Sealed-Doc-Prof-Descriptor, Enciphered-Doc-Prof-Descriptor,
        Preenciphered-Bodypart-Descriptor, Postenciphered-Bodypart-Descriptor
        FROM Protected-Part-Descriptors; *-- voir 7.15*

Interchange-Data-Element	**::=**	**CHOICE {**
document-profile		**[0] IMPLICIT Document-Profile-Descriptor,**
layout-object-class		**[1] IMPLICIT Layout-Class-Descriptor,**
layout-object		**[2] IMPLICIT Layout-Object-Descriptor,**
content-portion		**[3] IMPLICIT Text-Unit,**
logical-object-class		**[5] IMPLICIT Logical-Class-Descriptor,**
logical-object		**[6] IMPLICIT Logical-Object-Descriptor,**
presentation-style		**[7] IMPLICIT Presentation-Style-Descriptor,**
layout-style		**[8] IMPLICIT Layout-Style-Descriptor,**
sealed-doc-prof-descriptor		**[9] IMPLICIT Sealed-Doc-Prof-Descriptor,**
enciphered-doc-prof-descriptor		**[10] IMPLICIT Enciphered-Doc-Prof-Descriptor,**
preenciphered-bodypart-descriptor		**[11] IMPLICIT Preenciphered-Bodypart-Descriptor,**
postenciphered-bodypart-descriptor		**[12] IMPLICIT Postenciphered-Bodypart-Descriptor }**

END

7.7 Descripteur de profil de document

Document-Profile-Descriptor { 2 8 1 5 6 }

DEFINITIONS ::= BEGIN

EXPORTS Document-Profile-Descriptor, Character-Data;

IMPORTS Resource-Name, Object-or-Class-Identifier, Protected-Part-Identifier, Style-Identifier
        FROM Identifiers-and-Expressions *-- voir 7.8*
        Measure-Pair, Transparency, Colour, Dimension-Pair, One-Of-Four-Angles,
        Border, Medium-Type, Comment-String,
        Content-Background-Colour, Content-Foreground-Colour
        FROM Layout-Descriptors *-- voir 7.9*
        Protection
        FROM Logical-Descriptors *-- voir 7.10*
        Content-Architecture-Class, Content-Type, Block-Alignment, Fill-Order
        FROM Style-Descriptors *-- voir 7.11*
        Type-Of-Coding
        FROM Text-Units *-- voir 7.13*
        Colour-Characteristics, Colour-Spaces-List, Colour-Expression, Colour-Table
        FROM Colour-Attributes *-- voir 7.14*
        Character-Content-Defaults, Char-Presentation-Feature,
        Character-Coding-Attribute
        FROM Character-Profile-Attributes { 2 8 1 6 4 } *-- voir Rec. UIT-T T.416 | ISO/CEI 8613-6*
        Raster-Gr-Content-Defaults, Ra-Gr-Presentation-Feature,
        Ra-Gr-Coding-Attribute

```
            FROM Raster-Gr-Profile-Attributes { 2 8 1 7 4 }              -- voir Rec. UIT-T T.417 | ISO/CEI 8613-7
            Geo-Gr-Content-Defaults, Geo-Gr-Presentation-Feature,
            Geo-Gr-Coding-Attribute
            FROM Geo-Gr-Profile-Attributes { 2 8 1 8 4 }                 -- voir Rec. UIT-T T.418 | ISO/CEI 8613-8
            Font-Attribute-Set
            FROM ISO-STANDARD-9541-FONT-ATTRIBUTE-SET { 1 0 9541 2 2 };  -- voir ISO/CEI 9541-2

Document-Profile-Descriptor          ::=   SET {
  generic-layout-structure                   [0] IMPLICIT NumericString OPTIONAL,
  specific-layout-structure                  [1] IMPLICIT NumericString OPTIONAL,
  generic-logical-structure                  [4] IMPLICIT NumericString OPTIONAL,
  specific-logical-structure                 [5] IMPLICIT NumericString OPTIONAL,
  presentation-styles                        [6] IMPLICIT NumericString OPTIONAL,
  layout-styles                              [7] IMPLICIT NumericString OPTIONAL,
  sealed-profiles                           [12] IMPLICIT NumericString OPTIONAL,
  enciphered-profiles                       [13] IMPLICIT NumericString OPTIONAL,
  preenciphered-bodyparts                   [14] IMPLICIT NumericString OPTIONAL,
  postenciphered-bodyparts                  [15] IMPLICIT NumericString OPTIONAL,
```

-- *pour les structures génériques:*
-- *'ensemble générateur partiel' est représenté par "0",*
-- *'ensemble générateur complet' est représenté par "1",*
-- *'ensemble mis en facteur' est représenté par "2"*
-- *pour les autres cas, la chaîne numérique a la valeur 'présent'*
-- *représentée par "1"*

```
  external-document–class                    [9] Document-Reference OPTIONAL,
  resource-document                         [10] Document-Reference OPTIONAL,
  resources                                 [11] IMPLICIT SET OF SET {
    resource-identifier                            Resource-Name,
    object-class-identifier                        Object-or-Class-Identifier } OPTIONAL,
  document-characteristics                   [2] IMPLICIT Document-Characteristics,
  document-management-attributes             [3] IMPLICIT Document-Management-Attributes OPTIONAL,
  document-security-attributes              [16] IMPLICIT Document-Security-Attributes OPTIONAL }

Document-Characteristics             ::=   SET {
  document-application-profile               CHOICE {
                                             [0] IMPLICIT INTEGER {
                                                 group-4-facsimile (2) },
                                             [4] IMPLICIT OBJECT IDENTIFIER } OPTIONAL,
  doc-appl-profile-defaults                 [10] IMPLICIT Doc-Appl-Profile-Defaults OPTIONAL,
  document-architecture-class                [1] IMPLICIT INTEGER {
                                                 formatted (0),
                                                 processable (1),
                                                 formatted-processable (2) },
  content-architecture-classes               [5] IMPLICIT SET OF OBJECT IDENTIFIER,
  interchange-format-class                   [6] IMPLICIT INTEGER {
                                                 if-a (0),
                                                 if-b (1) },

  oda-version                                [8] IMPLICIT SEQUENCE {
    standard-or-recommendation                     Character-Data,
    publication-date                               Date-and-Time },
  alternative-feature-sets                  [11] IMPLICIT SET OF SET OF OBJECT IDENTIFIER OPTIONAL,
  non-basic-doc-characteristics              [2] IMPLICIT Non-Basic-Doc-Characteristics OPTIONAL,
  non-basic-struc-characteristics            [3] IMPLICIT Non-Basic-Struc-Characteristics OPTIONAL,
  additional-doc-characteristics             [9] IMPLICIT Additional-Doc-Characteristics OPTIONAL }

Doc-Appl-Profile-Defaults            ::=   SET {
  document-architecture-defaults             [0] IMPLICIT Document-Architecture-Defaults OPTIONAL,
  character-content-defaults                 [1] IMPLICIT Character-Content-Defaults OPTIONAL,
  raster-gr-content-defaults                 [2] IMPLICIT Raster-Gr-Content-Defaults OPTIONAL,
  geo-gr-content-defaults                    [3] IMPLICIT Geo-Gr-Content-Defaults OPTIONAL,
```

    -- les étiquettes suivantes sont réservées pour des types de valeurs par défaut
    -- pour des contenus additionnels:
        -- [4] vidéotex, pour utilisation en association avec les Recommandations UIT-T
        -- [5] audio
        -- [6] graphiques dynamiques

external-content-architecture-defaults	**[7] IMPLICIT SEQUENCE OF EXTERNAL OPTIONAL }**

Document-Architecture-Defaults	**::=**	**SET {**
content-architecture-class		**CHOICE {**
		[0] IMPLICIT Content-Architecture-Class,
		[1] IMPLICIT Content-Type } OPTIONAL,
page-dimensions		**[2] IMPLICIT Measure-Pair OPTIONAL,**
transparency		**[3] IMPLICIT Transparency OPTIONAL,**
colour		**[4] IMPLICIT Colour OPTIONAL,**
colour-of-layout-object		**[11] Colour-Expression OPTIONAL,**
object-colour-table		**[12] IMPLICIT Colour-Table OPTIONAL,**
content-background-colour		**[13] Content-Background-Colour OPTIONAL,**
content-foreground-colour		**[14] Content-Foreground-Colour OPTIONAL,**
content-colour-table		**[15] IMPLICIT Colour-Table OPTIONAL,**
layout-path		**[5] IMPLICIT One-Of-Four-Angles OPTIONAL,**
medium-type		**[6] IMPLICIT Medium-Type OPTIONAL,**
block-alignment		**[7] IMPLICIT Block-Alignment OPTIONAL,**
border		**[8] IMPLICIT Border OPTIONAL,**
page-position		**[9] IMPLICIT Measure-Pair OPTIONAL,**
type-of-coding		**[10] Type-Of-Coding OPTIONAL }**

Non-Basic-Doc-Characteristics	**::=**	**SET {**
profile-character-sets		**[5] IMPLICIT OCTET STRING OPTIONAL,**
comments-character-sets		**[1] IMPLICIT OCTET STRING OPTIONAL,**
alternative-repr-char-sets		**[6] IMPLICIT OCTET STRING OPTIONAL,**

    -- chacune de ces chaînes d'octets représente une chaîne de séquences d'échappement

page-dimensions	**[2] IMPLICIT SET OF Dimension-Pair OPTIONAL,**
medium-types	**[8] IMPLICIT SET OF Medium-Type OPTIONAL,**
layout-paths	**[21] IMPLICIT SET OF One-Of-Four-Angles OPTIONAL,**
transparencies	**[22] IMPLICIT SET OF Transparency OPTIONAL,**
protections	**[23] IMPLICIT SET OF Protection OPTIONAL,**
block-alignments	**[24] IMPLICIT SET OF Block-Alignment OPTIONAL,**
fill-orders	**[25] IMPLICIT SET OF Fill-Order OPTIONAL,**
colours	**[26] IMPLICIT SET OF Colour OPTIONAL,**
colours-of-layout-object	**[30] IMPLICIT SET OF Colour-Expression OPTIONAL,**
object-colour-tables	**[31] IMPLICIT SET OF Colour-Table OPTIONAL,**
content-background-colours	**[32] IMPLICIT SET OF Content-Background-Colour OPTIONAL,**
content-foreground-colours	**[33] IMPLICIT SET OF Content-Foreground-Colour OPTIONAL,**
content-colour-tables	**[34] IMPLICIT SET OF Colour-Table OPTIONAL,**
borders	**[27] IMPLICIT SET OF Border OPTIONAL,**
page-positions	**[28] IMPLICIT SET OF Measure-Pair OPTIONAL,**
types-of-coding	**[29] IMPLICIT SET OF Type-Of-Coding OPTIONAL,**
char-presentation-features	**[9] IMPLICIT SET OF Char-Presentation-Feature OPTIONAL,**
ra-gr-presentation-features	**[4] IMPLICIT SET OF Ra-Gr-Presentation-Feature OPTIONAL,**
geo-gr-presentation-features	**[12] IMPLICIT SET OF Geo-Gr-Presentation-Feature OPTIONAL,**

    -- les étiquettes suivantes sont réservées pour des types additionnels de caractéristiques
    -- de présentation:
        -- [13] vidéotex, pour utilisation en association avec les Recommandations UIT-T
        -- [14] audio
        -- [15] graphiques dynamiques

character-coding-attributes	**[16] IMPLICIT SET OF Character-Coding-Attribute OPTIONAL,**
ra-gr-coding-attributes	**[3] IMPLICIT SET OF Ra-Gr-Coding-Attribute OPTIONAL,**
geo-gr-coding-attributes	**[17] IMPLICIT SET OF Geo-Gr-Coding-Attribute OPTIONAL,**

-- les étiquettes suivantes sont réservées pour des types additionnels d'attributs de codage:
  -- [18] vidéotex, pour utilisation en association avec les Recommandations UIT-T
  -- [19] audio
  -- [20] graphiques dynamiques

ext-non-basic-pres-features		**[10] IMPLICIT SEQUENCE OF EXTERNAL OPTIONAL,**
ext-non-basic-coding-attributes		**[11] IMPLICIT SEQUENCE OF EXTERNAL OPTIONAL }**

Non-Basic-Struc-Characteristics	**::=**	**SET {**
number-of-objects-per-page		**[0] IMPLICIT INTEGER OPTIONAL }**

Additional-Doc-Characteristics	**::=**	**SET {**
unit-scaling		**[3] IMPLICIT SEQUENCE { INTEGER,INTEGER } OPTIONAL,**
fonts-list		**[2] IMPLICIT Fonts-List OPTIONAL,**
colour-characteristics		**[0] IMPLICIT Colour-Characteristics OPTIONAL,**
colour-spaces-list		**[1] IMPLICIT Colour-Spaces-List OPTIONAL }**

Fonts-List	**::=**	**SET OF SET {**
font-identifier		**INTEGER,**
font-reference		**Font-Reference }**

Font-Reference	**::=**	**SET {**
user-visible-name		**[0] IMPLICIT Comment-String OPTIONAL,**
user-readable-comment		**[1] IMPLICIT Comment-String OPTIONAL,**
reference-properties		**[2] IMPLICIT SET OF SET {**
precedence-number		**[0] IMPLICIT INTEGER OPTIONAL,**
properties		**[1] IMPLICIT Font-Attribute-Set,**
user-readable-comment		**[2] IMPLICIT Comment-String OPTIONAL } }**

Document-Management-Attributes	**::=**	**SET {**
document-description		**[7] IMPLICIT Document-Description OPTIONAL,**
dates-and-times		**[0] IMPLICIT Dates-and-Times OPTIONAL,**
originators		**[1] IMPLICIT Originators OPTIONAL,**
other-user-information		**[2] IMPLICIT Other-User-Information OPTIONAL,**
external-references		**[3] IMPLICIT External-References OPTIONAL,**
local-file-references		**[4] IMPLICIT Local-File-References OPTIONAL,**
content-attributes		**[5] IMPLICIT Content-Attributes OPTIONAL,**
security-information		**[6] IMPLICIT Security-Information OPTIONAL }**

Document-Description	**::=**	**SET {**
title		**[0] IMPLICIT Character-Data OPTIONAL,**
subject		**[1] IMPLICIT Character-Data OPTIONAL,**
document-type		**[2] IMPLICIT Character-Data OPTIONAL,**
abstract		**[3] IMPLICIT Character-Data OPTIONAL,**
keywords		**[4] IMPLICIT SET OF Character-Data OPTIONAL,**
document-reference		**[5] Document-Reference OPTIONAL }**

Character-Data	**::=**	**[APPLICATION 3] IMPLICIT OCTET STRING**

-- chaîne de caractères tirés des jeux désignés par l'attribut "jeux de caractères
-- de profil" plus retour du chariot et changement de ligne

Document-Reference	**::=**	**CHOICE {**
unique-reference		**OBJECT IDENTIFIER,**
descriptive-reference		**Character-Data }**

Dates-and-Times	**::=**	**SET {**
document-date-and-time		**[0] IMPLICIT Date-and-Time OPTIONAL,**
creation-date-and-time		**[1] IMPLICIT Date-and-Time OPTIONAL,**
local-filing-date-and-time		**[2] IMPLICIT SEQUENCE OF Date-and-Time OPTIONAL,**
expiry-date-and-time		**[3] IMPLICIT Date-and-Time OPTIONAL,**
start-date-and-time		**[4] IMPLICIT Date-and-Time OPTIONAL,**
purge-date-and-time		**[5] IMPLICIT Date-and-Time OPTIONAL,**
release-date-and-time		**[6] IMPLICIT Date-and-Time OPTIONAL,**
revision-history		**[7] IMPLICIT SEQUENCE OF SET {**
revision-date-and-time		**[0] IMPLICIT Date-and-Time OPTIONAL,**
version-identifier		**[1] IMPLICIT Character-Data OPTIONAL,**
revisers		**[2] IMPLICIT SET OF SET {**
names		**[0] IMPLICIT SET OF Personal-Name OPTIONAL,**
position		**[1] IMPLICIT Character-Data OPTIONAL,**
organization		**[2] IMPLICIT Character-Data OPTIONAL } OPTIONAL,**

version-reference	**[3] Document-Reference OPTIONAL,**	
user-comments	**[4] IMPLICIT Character-Data OPTIONAL } OPTIONAL }**	

Date-and-Time   **::=**   **[APPLICATION 4] IMPLICIT PrintableString**

    -- chaîne de caractères représentant une date et, facultativement, une heure
    -- conformément à ISO 8601

Originators   **::=**   **SET {**
  organizations   **[0] IMPLICIT SET OF Character-Data OPTIONAL,**
  preparers   **[1] IMPLICIT SEQUENCE OF SET {**
    personal-name   **[0] IMPLICIT Personal-Name OPTIONAL,**
    organization   **[1] IMPLICIT Character-Data OPTIONAL } OPTIONAL,**
  owners   **[2] IMPLICIT SEQUENCE OF SET {**
    personal-name   **[0] IMPLICIT Personal-Name OPTIONAL,**
    organization   **[1] IMPLICIT Character-Data OPTIONAL } OPTIONAL,**
  authors   **[3] IMPLICIT SEQUENCE OF SET {**
    personal-name   **[0] IMPLICIT Personal-Name OPTIONAL,**
    organization   **[1] IMPLICIT Character-Data OPTIONAL } OPTIONAL }**

Personal-Name   **::=**   **[APPLICATION 6] IMPLICIT SET {**
  surname   **[0] IMPLICIT Character-Data,**
  givenname   **[1] IMPLICIT Character-Data OPTIONAL,**
  initials   **[2] IMPLICIT Character-Data OPTIONAL,**
  generation-qualifier   **[3] IMPLICIT Character-Data OPTIONAL }**

Other-User-Information   **::=**   **SET {**
  copyright   **[0] IMPLICIT SET OF SET {**
    copyright-information   **[0] IMPLICIT SET OF Character-Data OPTIONAL,**
    copyright-dates   **[1] IMPLICIT SET OF Date-and-Time OPTIONAL } OPTIONAL,**
  status   **[1] IMPLICIT Character-Data OPTIONAL,**
  user-specific-codes   **[2] IMPLICIT SET OF Character-Data OPTIONAL,**
  distribution-list   **[3] IMPLICIT SEQUENCE OF SET {**
    personal-name   **[0] IMPLICIT Personal-Name OPTIONAL,**
    organization   **[1] IMPLICIT Character-Data OPTIONAL } OPTIONAL,**
  additional-information   **[5] ANY OPTIONAL }**

External-References   **::=**   **SET {**
  references-to-other-documents   **[0] IMPLICIT SET OF Document-Reference OPTIONAL,**
  superseded-documents   **[1] IMPLICIT SET OF Document-Reference OPTIONAL }**

Local-File-References   **::=**   **SET OF SET {**
  file-name   **[0] IMPLICIT Character-Data OPTIONAL,**
  location   **[1] IMPLICIT Character-Data OPTIONAL,**
  user-comments   **[2] IMPLICIT Character-Data OPTIONAL }**

Content-Attributes   **::=**   **SET {**
  document-size   **[1] IMPLICIT INTEGER OPTIONAL,**
  number-of-pages   **[2] IMPLICIT INTEGER OPTIONAL,**
  languages   **[4] IMPLICIT SET OF Character-Data OPTIONAL }**

Security-Information   **::=**   **SET {**
  authorization   **CHOICE {**
    person   **[0] IMPLICIT Personal-Name,**
    organization   **[4] IMPLICIT Character-Data } OPTIONAL,**
  security-classification   **[1] IMPLICIT Character-Data OPTIONAL,**
  access-rights   **[2] IMPLICIT SET OF Character-Data OPTIONAL }**

Document-Security-Attributes   **::=**   **SET {**
  sealed-info-encoding   **[7] IMPLICIT OBJECT IDENTIFIER OPTIONAL,**
  oda-security-label   **[0] IMPLICIT Oda-Security-Label OPTIONAL,**
  sealed-doc-profiles   **[1] IMPLICIT Sealed-Doc-Profiles OPTIONAL,**
  presealed-doc-bodyparts   **[2] IMPLICIT Sealed-Doc-Bodyparts OPTIONAL,**
  postsealed-doc-bodyparts   **[3] IMPLICIT Sealed-Doc-Bodyparts OPTIONAL,**
  enciphered-doc-profiles   **[4] IMPLICIT Protected-Doc-Parts OPTIONAL,**
  preenciphered-doc-bodyparts   **[5] IMPLICIT Protected-Doc-Parts OPTIONAL,**
  postenciphered-doc-bodyparts   **[6] IMPLICIT Protected-Doc-Parts OPTIONAL }**

Oda-Security-Label   **::=**   **SEQUENCE {**
  oda-label-text   **[0] IMPLICIT Character-Data OPTIONAL,**
  oda-label-data   **[1] IMPLICIT OCTET STRING OPTIONAL }**

```
Seal-Data                           ::=   SEQUENCE {
    seal-method                              [0] IMPLICIT Seal-Method OPTIONAL,
    sealed-information                       [1] IMPLICIT Sealed-Information OPTIONAL,
    seal                                     [2] IMPLICIT OCTET STRING }

Seal-Method                         ::=   SEQUENCE {
    fingerprint-method                       [0] IMPLICIT Method-Information OPTIONAL,
    fingerprint-key-information              [1] IMPLICIT Key-Information OPTIONAL,
    sealing-method                           [2] IMPLICIT Method-Information OPTIONAL,
    sealing-key-information                  [3] IMPLICIT Key-Information OPTIONAL }

Sealed-Information                  ::=   SEQUENCE {
    fingerprint                              [0] IMPLICIT OCTET STRING OPTIONAL,
    time                                     [1] IMPLICIT Date-and-Time OPTIONAL,
    sealing-orig-id                          [2] IMPLICIT Personal-Name OPTIONAL,
    location                                 [3] IMPLICIT Location OPTIONAL }

Method-Information                  ::=   SEQUENCE {
    unique-method-info                       [0] IMPLICIT OBJECT IDENTIFIER OPTIONAL,
    descriptive-method-info                  [1] IMPLICIT Character-Data OPTIONAL }

Key-Information                     ::=   SEQUENCE {
    method-information                       [0] IMPLICIT Method-Information OPTIONAL,
    additional-information                   [1] IMPLICIT Additional-Information OPTIONAL }

Additional-Information              ::=   SEQUENCE {
    descriptive-information                  [0] IMPLICIT Character-Data OPTIONAL,
    octet-string                             [1] IMPLICIT OCTET STRING OPTIONAL }

Location                            ::=   SEQUENCE {
    unique-location                          [0] IMPLICIT OBJECT IDENTIFIER OPTIONAL,
    descriptive-location                     [1] IMPLICIT Character-Data OPTIONAL }

Sealed-Doc-Profiles                 ::=   SET OF SEQUENCE {
    sealed-doc-prof-descriptor-id            [0] IMPLICIT Protected-Part-Identifier,
    privileged-recipients                    [1] IMPLICIT SET OF Personal-Name OPTIONAL,
    doc-prof-seal                            [2] IMPLICIT Seal-Data }

Sealed-Doc-Bodyparts                ::=   SET OF SEQUENCE {
    seal-id                                  [0] IMPLICIT INTEGER,
    sealed-constituents                      [1] IMPLICIT Sealed-Constituents,
    privileged-recipients                    [2] IMPLICIT SET OF Personal-Name OPTIONAL,
    doc-bodypart-seal                        [3] IMPLICIT Seal-Data }

Sealed-Constituents                 ::=   SEQUENCE {
    object-class-identifiers                 [0] IMPLICIT SEQUENCE OF Object-or-Class-Identifier
                                                                                OPTIONAL,
    presentation-style-identifiers           [1] IMPLICIT SEQUENCE OF Style-Identifier OPTIONAL,
    layout-style-identifiers                 [2] IMPLICIT SEQUENCE OF Style-Identifier OPTIONAL,
    object-identifiers                       [3] IMPLICIT SEQUENCE OF Object-or-Class-Identifier
                                                                                OPTIONAL }

Protected-Doc-Parts                 ::=   SET OF SEQUENCE {
    protected-doc-part-id                    [0] IMPLICIT Protected-Part-Identifier,
    priv-recipients-info                     [1] IMPLICIT SET OF Priv-Recipients-Info }

Priv-Recipients-Info                ::=   SEQUENCE {
    privileged-recipients                    [0] IMPLICIT SET OF Personal-Name OPTIONAL,
    encipherment-method-info                 [1] IMPLICIT Method-Information OPTIONAL,
    encipherment-key-info                    [2] IMPLICIT Key-Information OPTIONAL }

                                          END
```

7.8   Identificateurs et expressions

Identifiers-and-Expressions { 2 8 1 5 7 }

DEFINITIONS   ::= BEGIN

EXPORTS Content-Portion-Identifier, Object-or-Class-Identifier,
         Style-Identifier, Protected-Part-Identifier, Category-Name,
         Resource-Name, Binding-Name,
         Construction-Expression, Object-Id-Expression,
         Numeric-Expression, String-Expression;

```
IMPORTS  Layout-Object-Type
         FROM Layout-Descriptors                                          -- voir 7.9
         Logical-Object-Type
         FROM Logical-Descriptors;                                        -- voir 7.10
```

Content-Portion-Identifier   ::=   **[APPLICATION 0] IMPLICIT PrintableString**

  -- *des chiffres et des espaces seulement sont utilisés dans la version de la présente Spécification;*
  -- *d'autres caractères sont réservés pour des extensions*

Object-or-Class-Identifier   ::=   **[APPLICATION 1] IMPLICIT PrintableString**

  -- *des chiffres et des espaces seulement sont utilisés dans la version de la présente Spécification;*
  -- *d'autres caractères sont réservés pour des extensions; une valeur "nulle" est représentée*
  -- *par une chaîne vide*

Style-Identifier   ::=   **[APPLICATION 5] IMPLICIT PrintableString**

  -- *des chiffres et des espaces seulement sont utilisés dans la version de la présente Spécification;*
  -- *d'autres caractères sont réservés pour des extensions; une valeur "nulle" est représentée*
  -- *par une chaîne vide*

Protected-Part-Identifier   ::=   **[APPLICATION 7] IMPLICIT PrintableString**

  -- *des chiffres et des espaces seulement sont utilisés dans la version de la présente Spécification;*
  -- *d'autres caractères sont réservés pour des extensions; une valeur "nulle" est représentée*
  -- *par une chaîne vide*

Category-Name   ::=   **PrintableString**

  -- *une valeur "nulle" est représentée par une chaîne vide*

Resource-Name   ::=   **PrintableString**

Binding-Name   ::=   **PrintableString**

```
Construction-Expression        ::=     CHOICE {
  construction-type                       Construction-Type,
  single-term-construction                [3] Construction-Term }

Construction-Type              ::=     CHOICE {
  sequence-construction                   [0]  IMPLICIT Term-Sequence,
  aggregate-construction                  [1]  IMPLICIT Term-Sequence,
  choice-construction                     [2]  IMPLICIT Term-Sequence }

Term-Sequence                  ::=     SEQUENCE OF Construction-Term

Construction-Term              ::=     CHOICE {
  required-construction-factor            [0] Construction-Factor,
  optional-construction-factor            [1] Construction-Factor,
  repetitive-construction-factor          [2] Construction-Factor,
  optional-repetitive-factor              [3] Construction-Factor }

Construction-Factor            ::=     CHOICE {
  object-class-identifier                 Object-or-Class-Identifier,
  construction-type                       Construction-Type }

Object-Id-Expression           ::=     CHOICE {
  current-object-function                 [0] IMPLICIT NULL,
  preceding-object-function               [1] Object-Id-Expression,
  superior-object-function                [3] Object-Id-Expression,
  current-instance-function               [4] Current-Instance-Function }

Numeric-Expression             ::=     CHOICE {
  numeric-literal                         [0] IMPLICIT INTEGER,
  increment-application                   [1] Numeric-Expression,
  decrement-application                   [2] Numeric-Expression,
  ordinal-application                     [3] CHOICE {
    identifier                                Object-or-Class-Identifier,
    expression                                Object-Id-Expression },
  binding-reference                       [4] IMPLICIT Binding-Reference }
```

```
Binding-Reference                     ::=   SET {
  object-reference                          CHOICE {
    identifier                                    Object-or-Class-Identifier,
    expression                                    Binding-Selection-Function },
  binding-identifier                        Binding-Name }

Binding-Selection-Function            ::=   CHOICE {
  current-object-function                   [0] IMPLICIT NULL,
  preceding-function                        [1] Object-Id-Expression,
  superior-function                         [3] Object-Id-Expression,
  current-instance-function                 [4] Current-Instance-Function }

Current-Instance-Function             ::=   SEQUENCE {
  first-parameter                           CHOICE {
    identifier                                    [0] IMPLICIT Object-or-Class-Identifier,
    layout-object-type                            [1] IMPLICIT Layout-Object-Type,
    logical-object-type                           [2] IMPLICIT Logical-Object-Type },
  second-parameter                          CHOICE {
    identifier                                    Object-or-Class-Identifier,
    expression                                    Object-Id-Expression } }

String-Expression                     ::=   SEQUENCE OF Atomic-String-Expression

Atomic-String-Expression              ::=   CHOICE {
  string-literal                            [0] IMPLICIT OCTET STRING,
  binding-reference                         [2] IMPLICIT Binding-Reference,
  make-string-application                   [3] Numeric-Expression,
  upper-alpha-application                   [4] Numeric-Expression,
  lower-alpha-application                   [5] Numeric-Expression,
  upper-roman-application                   [6] Numeric-Expression,
  lower-roman-application                   [7] Numeric-Expression }

                                      END
```

7.9   Descripteurs physiques

Layout-Descriptors { 2 8 1 5 8 }

DEFINITIONS   ::= BEGIN

EXPORTS Layout-Object-Descriptor, Layout-Class-Descriptor,
Layout-Object-Type, Transparency, Comment-String,
Binding-Pair, One-Of-Four-Angles, Measure-Pair, Dimension-Pair,
Medium-Type, Colour, Border, Content-Background-Colour, Content-Foreground-Colour,
Enciphered, Sealed;

IMPORTS Object-or-Class-Identifier, Style-Identifier, Protected-Part-Identifier,
Category-Name, Resource-Name, Binding-Name,
Construction-Expression, Object-Id-Expression,
Numeric-Expression, String-Expression
   FROM Identifiers-and-Expressions   *-- voir 7.8*
   Presentation-Attributes
   FROM Style-Descriptors   *-- voir 7.11*
   Default-Value-Lists-Layout
   FROM Default-Value-Lists   *-- voir 7.12*
   Colour-Expression, Colour-Table
   FROM Colour-Attributes;   *-- voir 7.14*

```
Position-Spec                         ::=   SET {
  offset                                    [0] IMPLICIT SET {
    leading                                       [0] IMPLICIT INTEGER OPTIONAL,
    trailing                                      [1] IMPLICIT INTEGER OPTIONAL,
    left-hand                                     [2] IMPLICIT INTEGER OPTIONAL,
    right-hand                                    [3] IMPLICIT INTEGER OPTIONAL } OPTIONAL,
  separation                                [1] IMPLICIT SET {
    leading                                       [0] IMPLICIT INTEGER OPTIONAL,
    trailing                                      [1] IMPLICIT INTEGER OPTIONAL,
    centre                                        [2] IMPLICIT INTEGER OPTIONAL } OPTIONAL,
  alignment                                 [2] IMPLICIT INTEGER {
                                                right-hand (0), centred (1),
                                                left-hand (2) } OPTIONAL,
```

fill-order		**[3] IMPLICIT INTEGER {**
		normal (0), reverse (1) } OPTIONAL }
Dimension-Pair	**::=**	**SEQUENCE {**
horizontal		**CHOICE {**
fixed		**[0] IMPLICIT INTEGER,**
not-present		**[4] IMPLICIT NULL },**
vertical		**CHOICE {**
fixed		**[0] IMPLICIT INTEGER,**
variable		**[1] IMPLICIT INTEGER,**
not-present		**[4] IMPLICIT NULL } }**

-- *le choix "non présent" indique que le paramètre n'est pas présent*

Dimension-Spec	**::=**	**SEQUENCE {**
horizontal		**Dimension,**
vertical		**Dimension }**
Dimension	**::=**	**CHOICE {**
fixed		**[0] IMPLICIT INTEGER,**
rule-a		**[1] IMPLICIT SET {**
minimum		**[0] IMPLICIT INTEGER OPTIONAL,**
maximum		**[1] IMPLICIT INTEGER OPTIONAL },**
rule-b		**[2] IMPLICIT SET {**
minimum		**[0] IMPLICIT INTEGER OPTIONAL,**
maximum		**[1] IMPLICIT INTEGER OPTIONAL },**
maximum-size		**[3] IMPLICIT NULL,**
not-present		**[4] IMPLICIT NULL }**

-- *le choix "non présent" indique que le paramètre n'est pas présent*

Transparency	**::=**	**INTEGER { transparent (0), opaque (1) }**
Comment-String	**::=**	**OCTET STRING**

-- *chaîne de caractères tirés des jeux désignés par l'attribut de profil de document*
-- *"jeux de caractères de commentaires", plus fonctions de commande d'extension de code,*
-- *retour du chariot et changement de ligne*

Binding-Pair	**::=**	**SET {**
binding-identifier		**[0] IMPLICIT Binding-Name,**
binding-value		**CHOICE {**
		[1] Object-Id-Expression,
		[2] Numeric-Expression,
		[3] String-Expression,
		[4] IMPLICIT Object-or-Class-Identifier,
		[5] IMPLICIT INTEGER,
		[6] IMPLICIT OCTET STRING } }
One-Of-Four-Angles	**::=**	**INTEGER { d0 (0), d90 (1), d180 (2), d270 (3) }**
Measure-Pair	**::=**	**SEQUENCE {**
horizontal		**CHOICE {**
fixed		**[0] IMPLICIT INTEGER,**
not-present		**[4] IMPLICIT NULL },**
vertical		**CHOICE {**
fixed		**[0] IMPLICIT INTEGER,**
not-present		**[4] IMPLICIT NULL } }**

-- *le choix "non présent" indique que le paramètre n'est pas présent*

Medium-Type	**::=**	**SEQUENCE {**
nominal-page-size		**Measure-Pair OPTIONAL,**
side-of-sheet		**INTEGER { unspecified (0), recto (1), verso (2) } OPTIONAL,**
colour-of-medium		**[3] Colour-Of-Medium OPTIONAL }**
Colour	**::=**	**INTEGER { colour-of-media (0), coloured (1) }**
Border	**::=**	**SET {**
left-hand-edge		**[0] IMPLICIT Border-Edge OPTIONAL,**
right-hand-edge		**[1] IMPLICIT Border-Edge OPTIONAL,**
trailing-edge		**[2] IMPLICIT Border-Edge OPTIONAL,**
leading-edge		**[3] IMPLICIT Border-Edge OPTIONAL }**

```
Border-Edge                       ::=    SET {
    line-width                               [0] IMPLICIT INTEGER OPTIONAL,
    line-type                                [1] IMPLICIT INTEGER {
                                                 invisible (0), solid (1),
                                                 dashed (2), dot (3),
                                                 dash-dot (4),
                                                 dash-dot-dot (5) } OPTIONAL,
    freespace-width                          [2] IMPLICIT INTEGER OPTIONAL,
    border-line-colour                       [3] Border-Line-Colour OPTIONAL }
```

   -- *une valeur "nulle" est représentée par un ensemble vide*

```
Colour-Of-Medium                  ::=    CHOICE {
    unspecified-colour                       [3] IMPLICIT NULL,
    specified-colour                         Colour-Expression }

Border-Line-Colour                ::=    CHOICE {
    implementation-defined                   [3] IMPLICIT NULL,
    colour-expression                        Colour-Expression }

Content-Background-Colour         ::=    CHOICE {
    content-background-transparency          [2] IMPLICIT NULL,
    colour-expression                        Colour-Expression }

Content-Foreground-Colour         ::=    CHOICE {
    implementation-defined                   [3] IMPLICIT NULL,
    content-foreground-transparency          [2] IMPLICIT NULL,
    colour-expression                        Colour-Expression }

Enciphered                        ::=    SEQUENCE {
    enciphered-subordinates                  CHOICE {
      none-all                                 [0]  IMPLICIT INTEGER { none(0), all(1) },
      partial                                  [1]  IMPLICIT SEQUENCE OF NumericString },
    protected-part-id                        [2] IMPLICIT Protected-Part-Identifier OPTIONAL }

Sealed                            ::=    SEQUENCE {
    sealed-status                            [0] IMPLICIT INTEGER { no(0), yes(1) },
    seal-ids                                 [1] IMPLICIT SET OF INTEGER OPTIONAL }

Layout-Object-Descriptor          ::=    SEQUENCE {
    object-type                              Layout-Object-Type OPTIONAL,
    descriptor-body                          Layout-Object-Descriptor-Body OPTIONAL }

Layout-Object-Type                ::=    INTEGER { document-layout-root (0),
                                         page-set (1), page (2), frame (3), block (4) }

Layout-Object-Descriptor-Body     ::=    SET {
    object-identifier                        Object-or-Class-Identifier OPTIONAL,
    subordinates                             [0] IMPLICIT SEQUENCE OF NumericString OPTIONAL,
    content-portions                         [1] IMPLICIT SEQUENCE OF NumericString OPTIONAL,
    object-class                             [2] IMPLICIT Object-or-Class-Identifier OPTIONAL,
    position                                 [3] IMPLICIT Measure-Pair OPTIONAL,
    dimensions                               [4] IMPLICIT Dimension-Pair OPTIONAL,
    transparency                             [5] IMPLICIT Transparency OPTIONAL,
    presentation-attributes                  [6] IMPLICIT Presentation-Attributes OPTIONAL,
    default-value-lists                      [7] IMPLICIT Default-Value-Lists-Layout OPTIONAL,
    user-readable-comments                   [8] IMPLICIT Comment-String OPTIONAL,
    bindings                                 [9] IMPLICIT SET OF Binding-Pair OPTIONAL,
    layout-path                              [11] IMPLICIT One-Of-Four-Angles OPTIONAL,
    imaging-order                            [12] IMPLICIT SEQUENCE OF NumericString OPTIONAL,
    layout-stream-categories                 [36] IMPLICIT SET OF Category-Name OPTIONAL,
    layout-stream-sub-categories             [37] IMPLICIT SET OF Category-Name OPTIONAL,
    permitted-categories                     [13] IMPLICIT SET OF Category-Name OPTIONAL,
```

   -- *une valeur "nulle" est représentée par un ensemble vide*

```
    user-visible-name                        [14] IMPLICIT Comment-String OPTIONAL,
    page-position                            [15] IMPLICIT Measure-Pair OPTIONAL,
    medium-type                              [16] IMPLICIT Medium-Type OPTIONAL,
    presentation-style                       [17] IMPLICIT Style-Identifier OPTIONAL,
    balance                                  [21] IMPLICIT SEQUENCE OF Object-or-Class-Identifier
                                                                                     OPTIONAL,
```

    -- une valeur "nulle" est représentée par un ensemble vide

colour	**[22] IMPLICIT Colour OPTIONAL,**
colour-of-layout-object	**[29] Colour-Expression OPTIONAL,**
object-colour-table	**[30] IMPLICIT Colour-Table OPTIONAL,**
content-background-colour	**[31] Content-Background-Colour OPTIONAL,**
content-foreground-colour	**[32] Content-Foreground-Colour OPTIONAL,**
content-colour-table	**[33] IMPLICIT Colour-Table OPTIONAL,**
border	**[23] IMPLICIT Border OPTIONAL,**
application-comments	**[25] IMPLICIT OCTET STRING OPTIONAL,**
primary	**[27] IMPLICIT Object-or-Class-Identifier OPTIONAL,**
alternative	**[28] IMPLICIT Object-or-Class-Identifier OPTIONAL,**
enciphered	**[34] IMPLICIT Enciphered OPTIONAL,**
sealed	**[35] IMPLICIT Sealed OPTIONAL }**

Layout-Class-Descriptor	**::=**	**SEQUENCE {**
object-type		**Layout-Object-Type,**
descriptor-body		**Layout-Class-Descriptor-Body }**

Layout-Class-Descriptor-Body	**::=**	**SET {**
object-class-identifier		**Object-or-Class-Identifier,**
generator-for-subordinates		**[0] Construction-Expression OPTIONAL,**
content-portions		**[1] IMPLICIT SEQUENCE OF NumericString OPTIONAL,**
position		**CHOICE {**
fixed-position		**[3] IMPLICIT Measure-Pair,**
variable-position		**[26] IMPLICIT Position-Spec } OPTIONAL,**
dimensions		**[4] IMPLICIT Dimension-Spec OPTIONAL,**
transparency		**[5] IMPLICIT Transparency OPTIONAL,**
presentation-attributes		**[6] IMPLICIT Presentation-Attributes OPTIONAL,**
default-value-lists		**[7] IMPLICIT Default-Value-Lists-Layout OPTIONAL,**
user-readable-comments		**[8] IMPLICIT Comment-String OPTIONAL,**
bindings		**[9] IMPLICIT SET OF Binding-Pair OPTIONAL,**
content-generator		**[10] IMPLICIT String-Expression OPTIONAL,**
layout-path		**[11] IMPLICIT One-Of-Four-Angles OPTIONAL,**
layout-stream-categories		**[36] IMPLICIT SET OF Category-Name OPTIONAL,**
layout-stream-sub-categories		**[37] IMPLICIT SET OF Category-Name OPTIONAL,**
permitted-categories		**[13] IMPLICIT SET OF Category-Name OPTIONAL,**

    -- une valeur "nulle" est représentée par un ensemble vide

user-visible-name	**[14] IMPLICIT Comment-String OPTIONAL,**
page-position	**[15] IMPLICIT Measure-Pair OPTIONAL,**
medium-type	**[16] IMPLICIT Medium-Type OPTIONAL,**
presentation-style	**[17] IMPLICIT Style-Identifier OPTIONAL,**
logical-source	**[18] IMPLICIT Object-or-Class-Identifier OPTIONAL,**
balance	**[21] IMPLICIT SEQUENCE OF Object-or-Class-Identifier**
	OPTIONAL,

    -- une valeur "nulle" est représentée par une séquence vide

colour	**[22] IMPLICIT Colour OPTIONAL,**
colour-of-layout-object	**[29] Colour-Expression OPTIONAL,**
object-colour-table	**[30] IMPLICIT Colour-Table OPTIONAL,**
content-background-colour	**[31] Content-Background-Colour OPTIONAL,**
content-foreground-colour	**[32] Content-Foreground-Colour OPTIONAL,**
content-colour-table	**[33] IMPLICIT Colour-Table OPTIONAL,**
border	**[23] IMPLICIT Border OPTIONAL,**
resource	**[24] IMPLICIT Resource-Name OPTIONAL,**
application-comments	**[25] IMPLICIT OCTET STRING OPTIONAL,**
enciphered	**[34] IMPLICIT Enciphered OPTIONAL,**
sealed	**[35] IMPLICIT Sealed OPTIONAL }**

END

7.10   Descripteurs logiques

Logical-Descriptors { 2 8 1 5 9 }

DEFINITIONS   ::= BEGIN

EXPORTS Logical-Object-Descriptor, Logical-Class-Descriptor,
         Logical-Object-Type, Protection;

IMPORTS Object-or-Class-Identifier, Style-Identifier,
         Resource-Name, Construction-Expression, String-Expression
         FROM Identifiers-and-Expressions   -- *voir 7.8*
         Comment-String, Binding-Pair, Enciphered, Sealed
         FROM Layout-Descriptors   -- *voir 7.9*
         Presentation-Attributes FROM Style-Descriptors   -- *voir 7.11*
         Default-Value-Lists-Logical
         FROM Default-Value-Lists;   -- *voir 7.12*

Logical-Object-Descriptor   ::=   SEQUENCE {
    object-type   Logical-Object-Type OPTIONAL,
    descriptor-body   Logical-Object-Descriptor-Body OPTIONAL }

Logical-Object-Type   ::=   INTEGER { document-logical-root (0),
                                            composite-logical-object (1),
                                            basic-logical-object (2) }

Logical-Object-Descriptor-Body   ::=   SET {
    object-identifier   Object-or-Class-Identifier OPTIONAL,
    subordinates   [0] IMPLICIT SEQUENCE OF NumericString OPTIONAL,
    content-portions   [1] IMPLICIT SEQUENCE OF NumericString OPTIONAL,
    object-class   [2] IMPLICIT Object-or-Class-Identifier OPTIONAL,
    presentation-attributes   [6] IMPLICIT Presentation-Attributes OPTIONAL,

    -- *exclusivement pour utilisation pour l'attribut classe d'architecture de contenu;*
    -- *les attributs spécifiques d'architecture de contenu peuvent uniquement être représentés*
    -- *par l'utilisation du style de présentation*

    default-value-lists   [7] IMPLICIT Default-Value-Lists-Logical OPTIONAL,
    user-readable-comments   [8] IMPLICIT Comment-String OPTIONAL,
    bindings   [9] IMPLICIT SET OF Binding-Pair OPTIONAL,
    content-generator   [10] IMPLICIT String-Expression OPTIONAL,
    user-visible-name   [14] IMPLICIT Comment-String OPTIONAL,
    presentation-style   [17] IMPLICIT Style-Identifier OPTIONAL,
    layout-style   [19] IMPLICIT Style-Identifier OPTIONAL,
    protection   [20] IMPLICIT Protection OPTIONAL,
    application-comments   [25] IMPLICIT OCTET STRING OPTIONAL,
    primary   [27] IMPLICIT Object-or-Class-Identifier OPTIONAL,
    alternative   [28] IMPLICIT Object-or-Class-Identifier OPTIONAL,
    enciphered   [34] IMPLICIT Enciphered OPTIONAL,
    sealed   [35] IMPLICIT Sealed OPTIONAL }

Logical-Class-Descriptor   ::=   SEQUENCE {
    object-type   Logical-Object-Type,
    descriptor-body   Logical-Class-Descriptor-Body }

Logical-Class-Descriptor-Body   ::=   SET {
    object-class-identifier   Object-or-Class-Identifier,
    generator-for-subordinates   [0] Construction-Expression OPTIONAL,
    content-portions   [1] IMPLICIT SEQUENCE OF NumericString OPTIONAL,
    presentation-attributes   [6] IMPLICIT Presentation-Attributes OPTIONAL,

    -- *exclusivement pour utilisation pour l'attribut classe d'architecture de contenu;*
    -- *les attributs spécifiques d'architecture de contenu peuvent uniquement être représentés*
    -- *par l'utilisation du style de présentation*

    default-value-lists   [7] IMPLICIT Default-Value-Lists-Logical OPTIONAL,
    user-readable-comments   [8] IMPLICIT Comment-String OPTIONAL,
    bindings   [9] IMPLICIT SET OF Binding-Pair OPTIONAL,
    content-generator   [10] IMPLICIT String-Expression OPTIONAL,
    user-visible-name   [14] IMPLICIT Comment-String OPTIONAL,

presentation-style	[17] IMPLICIT Style-Identifier OPTIONAL,
layout-style	[19] IMPLICIT Style-Identifier OPTIONAL,
protection	[20] IMPLICIT Protection OPTIONAL,
resource	[24] IMPLICIT Resource-Name OPTIONAL,
application-comments	[25] IMPLICIT OCTET STRING OPTIONAL,
enciphered	[34] IMPLICIT Enciphered OPTIONAL,
sealed	[35] IMPLICIT Sealed OPTIONAL }

Protection   ::= INTEGER { unprotected (0), protected (1) }

              END

7.11 Descripteurs de style

Style-Descriptors { 2 8 1 5 10 }

DEFINITIONS   ::= BEGIN

EXPORTS Presentation-Style-Descriptor, Presentation-Attributes,
    Content-Type, Content-Architecture-Class,
    Layout-Style-Descriptor, Fill-Order, Block-Alignment;

IMPORTS Object-or-Class-Identifier, Style-Identifier,
    Category-Name, Object-Id-Expression
    FROM Identifiers-and-Expressions   *-- voir 7.8*
    Comment-String, Transparency, Colour, Border,
    Layout-Object-Type, Content-Background-Colour, Content-Foreground-Colour, Sealed
    FROM Layout-Descriptors   *-- voir 7.9*
    Colour-Expression, Colour-Table
    FROM Colour-Attributes   *-- voir 7.14*
    Character-Attributes
    FROM Character-Presentation-Attributes { 2 8 1 6 2 } *-- voir Rec. UIT-T T.416 | ISO/CEI 8613-6*
    Raster-Graphics-Attributes
    FROM Raster-Gr-Presentation-Attributes { 2 8 1 7 2 } *-- voir Rec. UIT-T T.417 | ISO/CEI 8613-7*
    Geometric-Graphics-Attributes
    FROM Geo-Gr-Presentation-Attributes { 2 8 1 8 2 }; *-- voir Rec. UIT-T T.418 | ISO/CEI 8613-8*

Presentation-Style-Descriptor ::=	**SET {**
style-identifier	Style-Identifier,
user-readable-comments	[0] IMPLICIT Comment-String OPTIONAL,
user-visible-name	[1] IMPLICIT Comment-String OPTIONAL,
application-comments	[25] IMPLICIT OCTET STRING OPTIONAL,
transparency	[2] IMPLICIT Transparency OPTIONAL,
presentation-attributes	[3] IMPLICIT Presentation-Attributes OPTIONAL,
colour	[4] IMPLICIT Colour OPTIONAL,
colour-of-layout-object	[29] Colour-Expression OPTIONAL,
object-colour-table	[30] IMPLICIT Colour-Table OPTIONAL,
content-background-colour	[31] Content-Background-Colour OPTIONAL,
content-foreground-colour	[32] Content-Foreground-Colour OPTIONAL,
content-colour-table	[33] IMPLICIT Colour-Table OPTIONAL,
border	[5] IMPLICIT Border OPTIONAL,
sealed	[6] IMPLICIT Sealed OPTIONAL,
derived-from	[7] IMPLICIT Style-Identifier OPTIONAL }

Presentation-Attributes ::=	**SET {**
content-architecture-class	CHOICE {
	Content-Architecture-Class,
	Content-Type } OPTIONAL,
character-attributes	[0] IMPLICIT Character-Attributes OPTIONAL,
raster-graphics-attributes	[1] IMPLICIT Raster-Graphics-Attributes OPTIONAL,
geometric-graphics-attributes	[2] IMPLICIT Geometric-Graphics-Attributes OPTIONAL,

  -- les étiquettes suivantes sont réservées pour des types additionnels d'attributs de présentation:
   -- [3] vidéotex, pour utilisation avec les Recommandations UIT-T
   -- [4] audio
   -- [5] graphiques dynamiques

ext-cont-arch-pres-attributes	[6] IMPLICIT SEQUENCE OF EXTERNAL OPTIONAL }

Content-Type ::=	[APPLICATION 2] IMPLICIT INTEGER {
	formatted-raster-graphics (1) }

-- La représentation par un entier pour la classe d'architecture de contenu, Type de contenu, ne doit être
-- utilisée que si la valeur de l'attribut de profil du document "profil d'application de document" est un entier.
-- La valeur graphique par points formaté représente l'architecture de contenu de graphiques
-- par points formatés définie dans la Rec. UIT-T T.417 | ISO/CEI 8613-7.

```
Content-Architecture-Class        ::=   OBJECT IDENTIFIER

Layout-Style-Descriptor           ::=   SET {
  style-identifier                        Style-Identifier,
  user-readable-comments                   [0] IMPLICIT Comment-String OPTIONAL,
  user-visible-name                        [1] IMPLICIT Comment-String OPTIONAL,
  application-comments                    [25] IMPLICIT OCTET STRING OPTIONAL,
  layout-directives                        [4] IMPLICIT Layout-Directives OPTIONAL,
  sealed                                   [6] IMPLICIT Sealed OPTIONAL,
  derived-from                             [7] IMPLICIT Style-Identifier OPTIONAL }

Layout-Directives                 ::=   SET {
  indivisibility                          CHOICE {
    to-layout-object-class                 [0] IMPLICIT Object-or-Class-Identifier,
    to-layout-category                     [1] IMPLICIT Category-Name,
    to-layout-object-type                  [2] IMPLICIT Layout-Object-Type,
    null                                  [15] IMPLICIT NULL } OPTIONAL,
  separation                               [3] IMPLICIT Separation OPTIONAL,
  offset                                   [4] IMPLICIT Offset OPTIONAL,
  fill-order                               [5] IMPLICIT Fill-Order OPTIONAL,
  concatenation                            [6] IMPLICIT Concatenation OPTIONAL,
  new-layout-object                       CHOICE {
    to-layout-object-class                 [7] IMPLICIT Object-or-Class-Identifier,
    to-layout-category                     [8] IMPLICIT Category-Name,
    to-layout-object-type                  [9] IMPLICIT Layout-Object-Type,
    null                                  [16] IMPLICIT NULL } OPTIONAL,
  same-layout-object                      [10] IMPLICIT Same-Layout-Object OPTIONAL,
  layout-object-class                     [11] IMPLICIT Object-or-Class-Identifier OPTIONAL,
  logical-stream-category                 [19] IMPLICIT Category-Name OPTIONAL,
  logical-stream-sub-category             [20] IMPLICIT Category-Name OPTIONAL,
  layout-category                         [12] IMPLICIT Category-Name OPTIONAL,
  synchronization                         CHOICE {
                                          [13] IMPLICIT Object-or-Class-Identifier,
                                          [17] Object-Id-Expression,
                                          [18] IMPLICIT NULL } OPTIONAL,
  block-alignment                         [14] IMPLICIT Block-Alignment OPTIONAL,
  floatability-range                      [24] IMPLICIT Floatability-Range OPTIONAL }

Separation                        ::=   SET {
  leading                                  [0] IMPLICIT INTEGER OPTIONAL,
  trailing                                 [1] IMPLICIT INTEGER OPTIONAL,
  centre                                   [2] IMPLICIT INTEGER OPTIONAL }

Offset                            ::=   SET {
  leading                                  [3] IMPLICIT INTEGER OPTIONAL,
  trailing                                 [2] IMPLICIT INTEGER OPTIONAL,
  left-hand                                [1] IMPLICIT INTEGER OPTIONAL,
  right-hand                               [0] IMPLICIT INTEGER OPTIONAL }

Fill-Order                        ::=   INTEGER { normal (0), reverse (1) }

Concatenation                     ::=   INTEGER { non-concatenated (0), concatenated (1) }

Same-Layout-Object                ::=   SET {
  logical-object                          CHOICE {
                                           [0] IMPLICIT Object-or-Class-Identifier,
                                           [4] Object-Id-Expression,
                                           [5] IMPLICIT NULL },
  layout-object                           CHOICE {
                                           [1] IMPLICIT Object-or-Class-Identifier,
    to-stream-root-category                [6] IMPLICIT Category-Name,
    to-stream-sub-category                 [7] IMPLICIT Category-Name,
    to-layout-category                     [2] IMPLICIT Category-Name,
                                           [3] IMPLICIT Layout-Object-Type } OPTIONAL }
```

```
Floatability-Range            ::=    SET {
  forward-limit                        [0] SEQUENCE {
    logical-object                          CHOICE {
                                              [2] IMPLICIT Object-or-Class-Identifier,
                                              [3] Object-Id-Expression,
                                              [4] IMPLICIT NULL },
    layout-object                           CHOICE {
      to-layout-object-class                  [5] IMPLICIT Object-or-Class-Identifier,
      to-stream-root-category                 [6] IMPLICIT Category-Name,
      to-stream-sub-category                  [7] IMPLICIT Category-Name,
      to-layout-category                      [8] IMPLICIT Category-Name,
      to-layout-object-type                   [9] IMPLICIT Layout-Object-Type,
                                              [10] IMPLICIT NULL } OPTIONAL } OPTIONAL,
  backward-limit                       [1] SEQUENCE {
    logical-object                          CHOICE {
                                              [2] IMPLICIT Object-or-Class-Identifier,
                                              [3] Object-Id-Expression,
                                              [4] IMPLICIT NULL },
    layout-object                           CHOICE {
      to-layout-object-class                  [5] IMPLICIT Object-or-Class-Identifier,
      to-stream-root-category                 [6] IMPLICIT Category-Name,
      to-stream-sub-category                  [7] IMPLICIT Category-Name,
      to-layout-category                      [8] IMPLICIT Category-Name,
      to-layout-object-type                   [9] IMPLICIT Layout-Object-Type,
                                              [10] IMPLICIT NULL } OPTIONAL } OPTIONAL }

Block-Alignment               ::=    INTEGER {
                                       right-hand (0), left-hand (1),
                                       centred (2), null (3) }

                                     END
```

7.12   Liste de valeurs par défaut

Default-Value-Lists { 2 8 1 5 11 }

DEFINITIONS   ::= BEGIN

EXPORTS Default-Value-Lists-Logical, Default-Value-Lists-Layout;

```
IMPORTS  Style-Identifier, Category-Name
             FROM Identifiers-and-Expressions                              -- voir 7.8
             Measure-Pair, One-Of-Four-Angles, Medium-Type,
             Dimension-Pair, Transparency, Colour, Border,
             Content-Background-Colour, Content-Foreground-Colour, Sealed
             FROM Layout-Descriptors                                       -- voir 7.9
             Protection FROM Logical-Descriptors                          -- voir 7.10
             Presentation-Attributes
             FROM Style-Descriptors                                       -- voir 7.11
             Colour-Expression, Colour-Table
             FROM Colour-Attributes;                                      -- voir 7.14

Default-Value-Lists-Layout    ::=    SET {
  page-set-attributes                  [1] IMPLICIT Page-Set-Attributes OPTIONAL,
  page-attributes                      [2] IMPLICIT Page-Attributes OPTIONAL,
  frame-attributes                     [3] IMPLICIT Frame-Attributes OPTIONAL,
  block-attributes                     [4] IMPLICIT Block-Attributes OPTIONAL }

Default-Value-Lists-Logical   ::=    SET {
  composite-logical-attributes         [5] IMPLICIT Composite-Logical-Attributes OPTIONAL,
  basic-logical-attributes             [6] IMPLICIT Basic-Logical-Attributes OPTIONAL }

Page-Set-Attributes           ::=    SET {
  layout-stream-categories             < Attribute OPTIONAL,
  layout-stream-sub-categories         < Attribute OPTIONAL }
```

```
Page-Attributes                    ::=    SET {
    dimensions                            < Attribute OPTIONAL,
    transparency                          < Attribute OPTIONAL,
    presentation-attributes               < Attribute OPTIONAL,
    page-position                         < Attribute OPTIONAL,
    medium-type                           < Attribute OPTIONAL,
    presentation-style                    < Attribute OPTIONAL,
    layout-stream-categories              < Attribute OPTIONAL,
    layout-stream-sub-categories          < Attribute OPTIONAL,
    colour                                < Attribute OPTIONAL,
    colour-of-layout-object               < Attribute OPTIONAL,
    object-colour-table                   < Attribute OPTIONAL,
    content-background-colour             < Attribute OPTIONAL,
    content-foreground-colour             < Attribute OPTIONAL,
    content-colour-table                  < Attribute OPTIONAL,
    sealed                                < Attribute OPTIONAL }

Frame-Attributes                   ::=    SET {
    position                              < Attribute OPTIONAL,
    dimensions                            < Attribute OPTIONAL,
    transparency                          < Attribute OPTIONAL,
    layout-path                           < Attribute OPTIONAL,
    permitted-categories                  < Attribute OPTIONAL,
    layout-stream-categories              < Attribute OPTIONAL,
    layout-stream-sub-categories          < Attribute OPTIONAL,
    colour                                < Attribute OPTIONAL,
    colour-of-layout-object               < Attribute OPTIONAL,
    object-colour-table                   < Attribute OPTIONAL,
    border                                < Attribute OPTIONAL,
    sealed                                < Attribute OPTIONAL }

Block-Attributes                   ::=    SET {
    position                              < Attribute OPTIONAL,
    dimensions                            < Attribute OPTIONAL,
    transparency                          < Attribute OPTIONAL,
    presentation-attributes               < Attribute OPTIONAL,
    presentation-style                    < Attribute OPTIONAL,
    layout-stream-categories              < Attribute OPTIONAL,
    layout-stream-sub-categories          < Attribute OPTIONAL,
    colour                                < Attribute OPTIONAL,
    colour-of-layout-object               < Attribute OPTIONAL,
    object-colour-table                   < Attribute OPTIONAL,
    content-background-colour             < Attribute OPTIONAL,
    content-foreground-colour             < Attribute OPTIONAL,
    content-colour-table                  < Attribute OPTIONAL,
    border                                < Attribute OPTIONAL,
    sealed                                < Attribute OPTIONAL }

Composite-Logical-Attributes       ::=    SET {
    protection                            < Attribute OPTIONAL,
    layout-style                          < Attribute OPTIONAL,
    sealed                                < Attribute OPTIONAL }

Basic-Logical-Attributes           ::=    SET {
    presentation-attributes               < Attribute OPTIONAL,
```

-- *exclusivement pour utilisation pour l'attribut classe d'architecture de contenu;*
-- *les attributs spécifiques d'architecture de contenu peuvent uniquement être représentés*
-- *par l'utilisation du style de présentation*

```
    protection                            < Attribute OPTIONAL,
    presentation-style                    < Attribute OPTIONAL,
    layout-style                          < Attribute OPTIONAL,
    sealed                                < Attribute OPTIONAL }
```

```
Attribute                          ::=    CHOICE {
  position                                  [0] IMPLICIT Measure-Pair,
  dimensions                                [1] IMPLICIT Dimension-Pair,
  transparency                              [2] IMPLICIT Transparency,
  presentation-attributes                   [3] IMPLICIT Presentation-Attributes,
  layout-path                               [4] IMPLICIT One-Of-Four-Angles,
  page-position                             [5] IMPLICIT Measure-Pair,
  medium-type                               [6] IMPLICIT Medium-Type,
  permitted-categories                      [7] IMPLICIT SET OF Category-Name,
  layout-stream-categories                 [19] IMPLICIT SET OF Category-Name,
  layout-stream-sub-categories             [20] IMPLICIT SET OF Category-Name,
  protection                                [8] IMPLICIT Protection,
  presentation-style                        [9] IMPLICIT Style-Identifier,
  layout-style                             [10] IMPLICIT Style-Identifier,
  colour                                   [11] IMPLICIT Colour,
  colour-of-layout-object                  [14] Colour-Expression,
  object-colour-table                      [15] IMPLICIT Colour-Table,
  content-background-colour                [16] Content-Background-Colour,
  content-foreground-colour                [17] Content-Foreground-Colour,
  content-colour-table                     [18] IMPLICIT Colour-Table,
  border                                   [12] IMPLICIT Border,
  sealed                                   [13] IMPLICIT Sealed }

                                   END
```

7.13   Unités de texte

Text-Units { 2 8 1 5 12 }

DEFINITIONS   ::= BEGIN

EXPORTS Text-Unit, Type-Of-Coding;

```
IMPORTS  Content-Portion-Identifier
           FROM Identifiers-and-Expressions                      -- voir 7.8
           Character-Coding-Attributes
           FROM Character-Coding-Attributes { 2 8 1 6 3 }        -- voir Rec. UIT-T T.416 | ISO/CEI 8613-6
           Raster-Gr-Coding-Attributes
           FROM Raster-Gr-Coding-Attributes { 2 8 1 7 3 }        -- voir Rec. UIT-T T.417 | ISO/CEI 8613-7
           Geo-Gr-Coding-Attributes
           FROM Geo-Gr-Coding-Attributes { 2 8 1 8 3 };          -- voir Rec. UIT-T T.418 | ISO/CEI 8613-8

Text-Unit                          ::=    SEQUENCE {
  content-portion-attributes                Content-Portion-Attributes OPTIONAL,
  content-information                       Content-Information OPTIONAL }

Content-Portion-Attributes         ::=    SET {
  content-identifier-layout                 Content-Portion-Identifier OPTIONAL,
  content-identifier-logical                [4] IMPLICIT Content-Portion-Identifier OPTIONAL,
  type-of-coding                            Type-Of-Coding OPTIONAL,
  coding-attributes                         CHOICE {
    character-coding-attributes             [1] IMPLICIT Character-Coding-Attributes,
    raster-gr-coding-attributes             [2] IMPLICIT Raster-Gr-Coding-Attributes,
    geo-gr-coding-attributes                [7] IMPLICIT Geo-Gr-Coding-Attributes,
    videotex-coding-attributes              [8] IMPLICIT Videotex-Coding-Attributes,

  -- l'utilisation de l'élément de données "attributs de codage vidéotex" est applicable
  -- seulement aux Rec. UIT-T de la série T.410

  -- les étiquettes suivantes sont réservées pour des types additionnels d'attributs de codage:
      -- [9] audio
      -- [10] graphiques dynamiques

    ext-cont-arch-coding-attributes        [11] IMPLICIT EXTERNAL } OPTIONAL,
  alternative-representation                [3] IMPLICIT Alternative-Representation OPTIONAL }

Content-Information                ::=    CHOICE {
  content                                   OCTET STRING,
  tiled-content                             Tiled-Content }

Tiled-Content                      ::=    SEQUENCE OF OCTET STRING
```

```
Type-Of-Coding                    ::=    CHOICE {
                                         [0] IMPLICIT INTEGER { t6 (1) },
                                         [6] IMPLICIT OBJECT IDENTIFIER }

Alternative-Representation        ::=    OCTET STRING
```

-- *chaîne de caractères tirés des jeux désignés par l'attribut de profil de document*
-- *"autres jeux de caractères de représentation", plus retour du chariot et changement de ligne*

END

7.14   Attributs de couleur

Colour-Attributes { 2 8 1 5 14 }

DEFINITIONS   ::= BEGIN

EXPORTS Colour-Expression, Colour-Table, Colour-Spaces-List, Colour-Characteristics;

IMPORTS Character-Data
            FROM Document-Profile-Descriptor;   -- *voir 7.7*

```
Real-Or-Int                       ::=    CHOICE { REAL, INTEGER }

Colour-Expression                 ::=    SEQUENCE {
  colour-access-mode                     [0] IMPLICIT INTEGER { direct (0), indexed (1) },
                                         [1] CHOICE {
    direct-colour                          [0]  IMPLICIT Direct-Colour,
    indexed-colour                         [1]  IMPLICIT Indexed-Colour  } }

Direct-Colour                     ::=    SET {
  colour-space-id                        [0] IMPLICIT INTEGER OPTIONAL,
  colour-specification                   [1] Colour-Specification OPTIONAL,
  colour-tolerance                       [2] IMPLICIT Colour-Tolerance OPTIONAL }

Colour-Specification              ::=    CHOICE {
  cmyk-colour                            [0] IMPLICIT CMYK-Colour,
  rgb-colour                             [1] IMPLICIT RGB-Colour,
  cie-colour                             [2] IMPLICIT CIE-Colour }

CMYK-Colour                       ::=    SET {
  c-value                                [0] Real-Or-Int,
  m-value                                [1] Real-Or-Int,
  y-value                                [2] Real-Or-Int,
  k-value                                [3] Real-Or-Int OPTIONAL }

RGB-Colour                        ::=    SET {
  r-value                                [0] Real-Or-Int,
  g-value                                [1] Real-Or-Int,
  b-value                                [2] Real-Or-Int }

CIE-Colour                        ::=    SET {
  x-value                                [0] Real-Or-Int,
  y-value                                [1] Real-Or-Int,
  z-value                                [2] Real-Or-Int }

Colour-Tolerance                  ::=    CHOICE {
  unspecified-tolerance                  [0] IMPLICIT NULL,
  specified-tolerance                    [1] IMPLICIT Specified-Tolerance }

Specified-Tolerance               ::=    SET {
  tolerance-value                        [0] IMPLICIT Real-Or-Int,
  tolerance-space                        [1] IMPLICIT INTEGER { cieluv (3), cielab (4) } }

Indexed-Colour                    ::=    SET {
  index                                  [0] IMPLICIT INTEGER OPTIONAL }

Colour-Table                      ::=    SET {
  colour-space-id                        [0] IMPLICIT INTEGER,
  colour-table-entries                   [1] IMPLICIT SET OF SET {
    index                                  [0]  IMPLICIT INTEGER,
    colour-coordinates                     [1]  Colour-Specification,
    colour-tolerance                       [2]  IMPLICIT Colour-Tolerance OPTIONAL } }
```

Colour-Characteristics	::=	SET {
colour-spaces-present		[0] IMPLICIT SEQUENCE OF SET {
colour-space-type		[0] IMPLICIT Colour-Space-Type,
colour-calibration-type		[1] IMPLICIT Colour-Space-Calibration-Type },
colour-modes-present		[1] IMPLICIT Colour-Modes-Present,
minimum-colour-tolerance		[2] IMPLICIT Colour-Tolerance OPTIONAL,
maximum-colour-table-length		[3] IMPLICIT INTEGER OPTIONAL,

-- "maximum number of colour table entries" --

| maximum-rgb-lut-length | | [4] IMPLICIT INTEGER OPTIONAL, |

-- "maximum number of look-up table entries" --

| maximum-cmy-k-grid-size | | [5] IMPLICIT INTEGER OPTIONAL } |

Colour-Space-Type	::=	INTEGER { rgb (0), cmyk (1), cmy (2), cieluv (3), cielab (4) }

Colour-Space-Calibration-Type	::=	INTEGER {
		no-calibration (0),
		matrices (1),
		lookup-tables (2),
		matrices-and-lookup-tables (3) }

Colour-Modes-Present	::=	INTEGER {
		direct (0), indexed (1), both (2) }

Colour-Spaces-List	::=	SET OF Colour-Space

Colour-Space	::=	SET {
colour-space-id		[0] IMPLICIT INTEGER,
colour-space-type		[1] IMPLICIT Colour-Space-Type,
colour-space-name		[2] IMPLICIT Character-Data OPTIONAL,
colour-data-scaling		[3] Colour-Data-Scaling OPTIONAL,
calibration-data		[4] IMPLICIT Calibration-Data OPTIONAL }

Colour-Data-Scaling	::=	SET {
first-component		[0] IMPLICIT Scale-And-Offset,
second-component		[1] IMPLICIT Scale-And-Offset,
third-component		[2] IMPLICIT Scale-And-Offset,
fourth-component		[3] IMPLICIT Scale-And-Offset OPTIONAL }

Scale-And-Offset	::=	SET {
colour-scale		[0] Real-Or-Int,
colour-offset		[1] Real-Or-Int }

Calibration-Data	::=	CHOICE {
rgb		[0] IMPLICIT RGB-Calibration,
cmyk		[1] IMPLICIT CMY-K-Calibration,
cmy		[2] IMPLICIT CMY-K-Calibration,
cieluv		[3] IMPLICIT CIE-Calibration,
cielab		[4] IMPLICIT CIE-Calibration }

CIE-Calibration	::=	SET {
reference-white		[0] IMPLICIT CIE-Ref }

RGB-Calibration	::=	SET {
reference-white		[0] IMPLICIT CIE-Ref,
matrix1		[1] IMPLICIT Three-by-Three-Matrix OPTIONAL,
lookup-table		[3] IMPLICIT Colour-Lookup-Table OPTIONAL,
matrix2		[2] IMPLICIT Three-by-Three-Matrix OPTIONAL }

Three-by-Three-Matrix	::=	SEQUENCE {
row-1		Three-Nums,
row-2		Three-Nums,
row-3		Three-Nums }

Three-Nums	::=	SEQUENCE {
column-1		Real-Or-Int,
column-2		Real-Or-Int,
column-3		Real-Or-Int }

Colour-Lookup-Table	::=	SET {
number-of-entries		[0] IMPLICIT INTEGER,
m		[1] IMPLICIT INTEGER,
n		[2] IMPLICIT INTEGER,
colour-table		[3] IMPLICIT SET OF Colour-Table-Entry }

Colour-Table-Entry	::=	**SET {**
index		**[3] IMPLICIT INTEGER,**
r		**[0] Real-Or-Int,**
g		**[1] Real-Or-Int,**
b		**[2] Real-Or-Int }**
CMY-K-Calibration	::=	**SET {**
reference-white		**[0] IMPLICIT CIE-Ref,**
comment		**[1] IMPLICIT Character-Data OPTIONAL,**
cmyk-lut		**[2] IMPLICIT Grid-Specification }**
Grid-Specification	::=	**SET OF SET {**
grid-location		**[0] IMPLICIT CMYK-Colour,**
grid-value		**[1] IMPLICIT Grid-Value }**
Grid-Value	::=	**SET {**
x-value		**[0] IMPLICIT REAL,**
y-value		**[1] IMPLICIT REAL,**
z-value		**[2] IMPLICIT REAL }**
CIE-Ref	:=	**SET {**
xn-value		**[0] Real-Or-Int,**
yn-value		**[1] Real-Or-Int,**
zn-value		**[2] Real-Or-Int }**
		END

7.15   Descripteurs de parties protégées

Protected-Part-Descriptors { 2 8 1 5 13 }

DEFINITIONS   ::= BEGIN

EXPORTS Sealed-Doc-Prof-Descriptor,
          Enciphered-Doc-Prof-Descriptor,
          Preenciphered-Bodypart-Descriptor,
          Postenciphered-Bodypart-Descriptor;

IMPORTS Protected-Part-Identifier
          FROM Identifiers-and-Expressions;   *-- voir 7.8*

Sealed-Doc-Prof-Descriptor	::=	**SEQUENCE {**
sealed-doc-prof-identifier		**Protected-Part-Identifier,**
sealed-doc-prof-information		**Document-Profile-Attribute-Names }**
Document-Profile-Attribute-Names	::=	**BIT STRING {**
		generic-layout-structure (0), specific-layout-structure (1),
		generic-logical-structure (2), specific-logical-structure (3),
		layout-styles (4), presentation-styles (5), sealed-profiles (6),
		enciphered-profiles (7), pre-enciphered-body-parts (8),
		post-enciphered-body-parts (9), external-document-class (10),
		resource-document (11), resources (12),
		document-application-profile (13),
		document-application-profile-defaults (14),
		document-architecture-class (15),
		content-architecture-classes (16), interchange-format-class (17),
		oda-version (18), alternative-feature-sets (19),
		profile-character-sets (20), comments-character-sets (21),
		alternative-representation-character-sets (22),
		page-dimensions (23), medium-types (24), layout-paths (25),
		protections (26), block-alignments (27), fill-orders (28),
		transparencies (29), colours (30), colours-of-layout-object (31),
		object-colour-tables (32), content-background-colours (33),
		content-foreground-colours (34), content-colour-tables (35),
		borders (36), page-positions (37), types-of-coding (38),
		coding-attributes (39), presentation-features (40),
		number-of-objects-per-page (41), unit-scaling (42),
		fonts-list (43), colour-characteristics (44),
		colour-spaces-list (45), title (46), subject (47),
		document-reference (48), document-type (49), abstract (50),

> keywords (51), document-date-and-time (52),
> creation-date-and-time (53), local-filing-date-and-time (54),
> expiry-date-and-time (55), start-date-and-time (56),
> purge-date-and-time (57), release-date-and-time (58),
> revision-history (59), organizations (60), preparers (61),
> owners (62), authors (63), copyright (64), status (65),
> user-specific-codes (66), distribution-list (67),
> additional-information (68), references-to-other-documents (69),
> superseded-documents (70), local-file-references (71),
> document-size (72), number-of-pages (73), languages (74),
> authorization (75), security-classification (76), access-rights (77),
> sealed-information-encoding (78), oda-security-label (79),
> sealed-document-profiles (80),
> pre-sealed-document-body-parts (81),
> post-sealed-document-body-parts (82),
> enciphered-document-profiles (83),
> pre-enciphered-document-body-parts (84),
> post-enciphered-document-body-parts (85) }

Enciphered-Doc-Prof-Descriptor   **::=**   **SEQUENCE {**
  enciphered-doc-prof-identifier   **Protected-Part-Identifier,**
  enciphered-doc-prof-information   **Enciphered-Information }**

Preenciphered-Bodypart-Descriptor   **::=**   **SEQUENCE {**
  preenciphered-bodypart-identifier   **Protected-Part-Identifier,**
  preenciphered-bodypart-info   **Enciphered-Information }**

Postenciphered-Bodypart-Descriptor   **::=**   **SEQUENCE {**
  postenciphered-bodypart-identifier   **Protected-Part-Identifier,**
  postenciphered-bodypart-info   **Enciphered-Information }**

Enciphered-Information   **::=**   **OCTET STRING**

END

Annexe A

Représentation codée

(Cette annexe ne fait pas partie intégrante de la présente
Recommandation | Norme internationale)

La présente annexe contient un résumé des règles élémentaires de codage pour la notation de syntaxe abstraite ASN.1 définie dans la Rec. X.209 du CCITT | ISO/CEI 8825.

La représentation codée de chaque structure de données ou de chaque élément de données, qui constitue un descripteur ou une unité de texte ou une partie d'un descripteur ou d'une unité de texte, consiste en un champ type, un champ longueur et un champ valeur.

Si l'élément de données considéré est un élément de données élémentaire, le champ type spécifie le type élémentaire de données, le champ longueur spécifie la longueur du champ valeur et le champ valeur représente la valeur de l'élément de données.

Si la structure de données ou l'élément de données considéré n'est pas élémentaire, le champ type identifie l'attribut ou le groupe d'attributs correspondant à la structure de données ou à l'élément de données, le champ longueur spécifie la longueur du champ valeur et le champ valeur consiste en un ou plusieurs triplets dont chacun se compose d'un champ type, d'un champ longueur et d'un champ valeur représentant les structures de données et les éléments de données subordonnés.

Le *champ type* (qui est appelé «octets identificateurs» dans la Rec. X.209 du CCITT | ISO/CEI 8825) consiste en un ou plusieurs multiplets. Les bits du premier multiplet sont utilisés comme suit:

> bits 8 et 7: classe d'étiquettes (00: universel,
> > 01: application,
> > 10: spécifique au contexte,
> > 11: privé);
>
> bit 6:　　　forme de codage du contenu (0: simple,
> > 1: structuré);
>
> bits 5 à 1: 00000 à 11110: numéro d'étiquette;
> > 11111 indique un champ type de plusieurs octets.

Les numéros d'étiquettes comme indiqué au Tableau A.1 pour les étiquettes universelles ont été assignés dans les Rec. X.208 du CCITT | ISO/CEI 8824 et X.209 du CCITT | ISO/CEI 8825.

Tableau A.1 – Etiquettes de la classe universelle

Types de données incorporés	Types de données définis
0:　fin de contenu 1:　booléen 2:　entier 3:　chaîne de bits 4:　chaîne d'octets 5:　nul 6:　identificateur d'objet 7:　descripteur d'objet 8:　externe 9:　réel 10: énuméré 11: chiffré 16: séquence 17: ensemble	18: chaîne numérique 19: chaîne imprimable 20: chaîne télétex 21: chaîne vidéotex 22: chaîne IA5 23: temps UTC 24: temps généralisé 25: chaîne de caractères graphiques 26: chaîne générale 27: chaîne visible

Les éléments de données des types fin de contenu, booléen, entier ou nul sont simples (éléments de données élémentaires). Ceux des types séquence et ensemble sont structurés (structures de données avec éléments de données subordonnés). Les éléments de données des types chaîne de bits, chaîne d'octets ou tous les types de données définis peuvent être soit simples soit structurés.

Le *champ de longueur* se compose d'un ou de plusieurs multiplets. Il peut prendre l'une des trois formes suivantes: courte, longue ou indéfinie. Les bits du premier multiplet sont utilisés comme suit:

      bit 8:   forme du champ longueur   (0: courte,

                                            1: longue ou indéfinie);

      bits 7 à 1: si le bit 8 = 0: nombre de multiplets du champ valeur;

               si le bit 8 = 1: nombre de multiplets du champ longueur qui suivent le premier;

                                0000000 indique la forme indéfinie du champ longueur.

Une structure de données ou un élément de données avec champ longueur indéfinie doivent être structurés et doivent se terminer sur un délimiteur consistant en un élément fin de contenu (EOC). Un EOC se compose de deux multiplets: un champ type d'un multiplet et un champ longueur d'un multiplet. Chacun d'eux est égal à zéro. Un EOC n'a pas de champ valeur.

Annexe B

Assignation d'étiquettes de la classe application

(Cette annexe ne fait pas partie intégrante de la présente
Recommandation | Norme internationale)

Les assignations d'étiquettes de la classe application que l'on trouve dans divers articles de la présente Spécification sont résumées dans le Tableau B.1.

Tableau B.1 – Etiquettes de la classe application

Etiquette	Type de données	Référence (paragraphe)
APPLICATION 0	**Content-Portion-Identifier**	7.8
APPLICATION 1	**Object-or-Class-Identifier**	7.8
APPLICATION 2	**Content-Type**	7.11
APPLICATION 3	**Character-Data**	7.7
APPLICATION 4	**Date-and-Time**	7.7
APPLICATION 5	**Style-Identifier**	7.8
APPLICATION 6	**Personal-Name**	7.7
APPLICATION 7	**Protected-Part-Identifier**	7.8

Annexe C

Récapitulation des identificateurs d'objet

(Cette annexe ne fait pas partie intégrante de la présente
Recommandation | Norme internationale)

Les valeurs des identificateurs d'objet ASN.1 sont attribuées dans différents articles de la présente Spécification. Elles sont résumées dans le Tableau C.1.

Tableau C.1 – Récapitulation des identificateurs d'objet ASN.1

Valeur de l'identificateur d'objet	Signification	Référence (paragraphe)
{ 2 8 0 0 }	Identifie le type de données externes	7.1
{ 2 8 1 5 5 }	Identifie le module **Interchange-Data-Elements**	7.6
{ 2 8 1 5 6 }	Identifie le module **Document-Profile-Descriptor**	7.7
{ 2 8 1 5 7 }	Identifie le module **Identifiers-and-Expressions**	7.8
{ 2 8 1 5 8 }	Identifie le module **Layout-Descriptors**	7.9
{ 2 8 1 5 9 }	Identifie le module **Logical-Descriptors**	7.10
{ 2 8 1 5 10 }	Identifie le module **Style-Descriptors**	7.11
{ 2 8 1 5 11 }	Identifie le module **Default-Value-Lists**	7.12
{ 2 8 1 5 12 }	Identifie le module **Text-Units**	7.13
{ 2 8 1 5 13 }	Identifie le module **Protected-Part-Descriptors**	7.15
{ 2 8 1 5 14 }	Identifie le module **Colour-Attributes**	7.14

Annexe D

Exemples

(Cette annexe ne fait pas partie intégrante de la présente
Recommandation | Norme internationale)

Les quatre premiers exemples donnés dans la présente annexe sont des flots de données correspondant aux diverses versions du document spécimen de l'Annexe B de la Rec. UIT-T T.412 | ISO/CEI 8613-2.

Quatre versions du document spécimen sont prises en considération:

– Exemple 1: structure physique spécifique seulement. Cet exemple est spécifié dans B.4.1, y compris la Figure B.7 et le Tableau B.1 de la Rec. UIT-T T.412 | ISO/CEI 8613-2.

– Exemple 2: structure logique spécifique seulement. Cet exemple est spécifié dans la disposition B.4.2, y compris la Figure B.8 et les Tableaux B.2 et B.3 de la Rec. UIT-T T.412 | ISO/CEI 8613-2.

– Exemple 3: structure logique spécifique, structure logique générique et structure physique générique. Cet exemple est spécifié dans B.5, y compris les Figures B.8, B.9, B.10 et les Tableaux B.4, B.5, B.6 et B.7 de la Rec. UIT-T T-412 | ISO/CEI 8613-2.

– Exemple 4: structure physique spécifique seulement, produite à partir des structures de l'exemple 3. Cet exemple est spécifié dans la disposition B.6, y compris la Figure B.11 et le Tableau B.8 de la Rec. UIT-T T-412 | ISO/CEI 8613-2.

Les quatre exemples sont présentés dans les dispositions D.1, D.2, D.3 et D.4 ci-après. Les flots de données constituant chaque exemple sont présentés selon deux notations:

a) la notation ASN.1 pour les valeurs de données définies dans la Rec. X.208 du CCITT | ISO/CEI 8824;

b) la notation hexadécimale des valeurs de données codées, après avoir appliqué les règles de codage de base définies dans la Rec. X.209 du CCITT | ISO/CEI 8825.

La notation ASN.1 est montrée à gauche et la notation hexadécimale à droite de chaque page. Le symbole **LL** représente un champ longueur dont la longueur n'est pas connue.

NOTE – Les flots de données équivalant à ces exemples sont présentés à l'Annexe F.

De plus, la disposition D.5 présente l'exemple d'un flot de données représentant le profil de document spécimen de l'Annexe C de la Rec. UIT-T T.414 | ISO/CEI 8613-4.

D.1   Exemple 1: Document spécimen de l'Annexe B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; structure physique spécifique seulement

```
document-profile {                                          A06F
  specific-layout-structure "1",                            810131
  document-characteristics {                                A26A
    document-architecture-class formatted,                  810100
    content-architecture-classes {                          A512
      { 2 8 2 6 0 },                                         060458020600
      { 2 8 2 7 0 },                                         060458020700
      { 2 8 2 8 0 }},                                        060458020800
    interchange-format-class if-b,                           860101
    oda-version {                                            A84E
      standard-or-recommendation                            43424954552D54205265632E2054
        "ITU-T Rec. T.410 Series (1993) | ISO/IEC 8613:1994;   2E343130205365726965732028 31
        version 2.00",                                       39393329207C2049534F2F494543
                                                             2038363133203A20313939343B20
                                                             76657273696F6E20322E3030
      publication-date "19920501" }}},                      440831393932303530 31
layout-object {                                              A21B
  object-type document-layout-root,                          020100
  descriptor-body {                                          3116
    object-identifier "1",                                   410131
    user-visible-name "Letter",                              8E064C6574746572
    subordinates {                                           A009
      "0","1","2" }}},                                       120130120131120132
layout-object {                                              A232
  object-type page,                                          020102
  descriptor-body {                                          312D
```

object-identifier "1 0",	4103312030
user-visible-name "Header Page",	8E0B48656164657220506167
	65
dimensions {	A408
horizontal 9920,	800226C0
vertical fixed 14030 },	800236CE
subordinates {	A00F
"0","1","2","3","4" }}},	12013012013112013212013
	120134
layout-object {	A238
object-type block,	020104
descriptor-body {	3133
object-identifier "1 0 0",	41053120302030
user-visible-name "Logo",	8E044C6F676F
position {	A308
horizontal 710,	800202C6
vertical 730 },	800202DA
dimensions {	A408
horizontal 3685,	80020E65
vertical fixed 2495 },	800209BF
presentation-attributes {	A60B
content-architecture-class	
{ 2 8 2 7 0 },	060458020700
raster-graphics-attributes {	A103
pel-transmission-density p2 }},	820105
content-portions { "0" }}},	A103120130
content-portion {	A3LL
content-portion-attributes {	31LL
content-identifier-layout "1 0 0 0",	4007312030203020 2030
raster-gr-coding-attributes {	A204
number-of-pels-per-line 737 }},	800202E1
content-information { /* Array of raster	04LL ....
graphic elements for the logo */ }},	....
layout-object {	A22B
object-type block,	020104
descriptor-body {	3126
object-identifier "1 0 1",	41053120302031
user-visible-name "Date",	8E0444617465
position {	A308
horizontal 5440,	80021540
vertical 1275 },	800204FB
dimensions {	A408
horizontal 3060,	80020BF4
vertical fixed 540 },	8002021C
content-portions { "0" }}},	A103120130
content-portion {	A321
content-portion-attributes {	3109
content-identifier-layout "1 0 1 0" },	4007312030203120 30
content-information { "CESSON, 26 JUNE 1985" }},	0414434553534F4E2C..
	..31393835
layout-object {	A230
object-type block,	020104
descriptor-body {	312B
object-identifier "1 0 2",	41053120302032
user-visible-name "Addressee",	8E09416464726573736565
position {	A308
horizontal 1105,	80020451
vertical 4310 },	800210D6
dimensions {	A408
horizontal 4505,	80021199
vertical fixed 540 },	8002021C
content-portions { "0" }}},	A103120130
content-portion {	A32C
content-portion-attributes {	3109
content-identifier-layout "1 0 2 0" },	4007312030203220 30
content-information { "To members of ISO/	041F546F206D656D626572
TC97/SC18/WG3" }},	73....574733

layout-object {	A236
object-type block,	020104
descriptor-body {	3131
object-identifier "1 0 3",	41053120302033
user-visible-name "Subject",	8E075375626A656374
position {	A308
horizontal 1105,	80020451
vertical 6660 },	80021A04
dimensions {	A408
horizontal 7200,	80021C20
vertical fixed 905 },	80020389
presentation-attributes {	A606
character-attributes {	A004
line-spacing 300 }},	8702012C
content-portions { "0" }}},	A103120130
content-portion {	A3LL
content-portion-attributes {	3109
content-identifier-layout "1 0 3 0" },	4007312030203320 30
content-information { "SUBJECT: PROPOSED	04LL5456424A4543553A..
EXAMPLE TO CLARIFY	....
THE DOCUMENT\n	....
ARCHITECTURE MODEL" }},	....4D4F44454C
layout-object {	A235
object-type block,	020104
descriptor-body {	3130
object-identifier "1 0 4",	41053120302034
user-visible-name "Summary",	8E0753756D6D617279
position {	A308
horizontal 2180,	80020884
vertical 9695 },	800225DF
dimensions {	A408
horizontal 5585,	800215D1
vertical fixed 2325 },	80020915
presentation-attributes {	A605
character-attributes {	A003
alignment justified }},	880103
content-portions { "0" }}},	A103120130
content-portion {	A3LL
content-portion-attributes {	31LL
content-identifier-layout "1 0 4 0" },	4007312030203420 30
content-information { /* Formatted string of	04LL53554D4D4152415259..
SUMMARY- */ }},	....
layout-object {	A232
object-type page,	020102
descriptor-body {	312D
object-identifier "1 1",	4103312031
user-visible-name "Body Page 1",	8E0B426F647920506167652031
dimensions {	A408
horizontal 9920,	800226C0
vertical fixed 14030 },	800236CE
subordinates {	A00F
"0","1","2","3","4" }}},	1201301201311201321201 3312
layout-object {	A238
object-type block,	020104
descriptor-body {	3133
object-identifier "1 1 0",	41053120312030
user-visible-name "Para A",	8E06506172612041
position {	A308
horizontal 1105,	80020451
vertical 1105 },	80020451
dimensions {	A408
horizontal 7935,	80021EFF
vertical fixed 1785 },	800206F9
presentation-attributes {	A609
character-attributes {	A007
line-spacing 300,	8702012C
alignment justified }},	880103
content-portions { "0" }}},	A103120130

```
content-portion {                                        A3LL
  content-portion-attributes {                           3109
    content-identifier-layout "1 1 0 0" },               4007312031203020 30
    content-information { /* Formatted string             04LL414141 .....................................................
            of A's */ }},                                .......................................................................
layout-object {                                          A238
  object-type block,                                     020104
  descriptor-body {                                      3133
    object-identifier "1 1 1",                           41053120312031
    user-visible-name "Para B",                          8E06506172612042
    position {                                           A308
        horizontal 1105,                                 80020451
        vertical 3770 },                                 80020EBA
    dimensions {                                         A408
        horizontal 7935,                                 80021EFF
        vertical fixed 1785 },                           800206F9
    presentation-attributes {                            A609
        character-attributes {                           A007
          line-spacing 400,                              87020190
          alignment justified }},                        880103
    content-portions { "0" }}},                          A103120130
content-portion {                                        A3LL
  content-portion-attributes {                           3109
    content-identifier-layout "1 1 1 0" },               4007312031203120 30
    content-information { /* Formatted string             04LL4242 .........................................................
            of B's */ }},                                .......................................................................
layout-object {                                          A236
  object-type block,                                     020104
  descriptor-body {                                      3131
    object-identifier "1 1 2",                           41053120312032
    user-visible-name "Drawing",                         8E0744726177696E67
    position {                                           A308
        horizontal 2180,                                 80020884
        vertical 6460 },                                 8002193C
    dimensions {                                         A408
        horizontal 5045,                                 800213B5
        vertical fixed 4140 },                           8002102C
    presentation-attributes {                            A606
        content-architecture-class                       060458020800
        { 2 8 2 8 0 }},
    content-portions { "0" }}},                          A103120130
content-portion {                                        A3LL
  content-portion-attributes {                           3109
    content-identifier-layout "1 1 2 0" },               4007312031203220 30
    content-information { /* Ordered set of               04LL ..............................................................
            geometric graphics                           ........................................................................
            content elements for                         ........................................................................
            the diagram */ }},                           ........................................................................
layout-object {                                          A22E
  object-type block,                                     020104
  descriptor-body {                                      3129
    object-identifier "1 1 3",                           41053120312033
    user-visible-name "Caption",                         8E0743617074696F6E
    position {                                           A308
        horizontal 2550,                                 800209F6
        vertical 10800 },                                80022A30
    dimensions {                                         A408
        horizontal 3970,                                 80020F82
        vertical fixed 370 },                            80020172
    content-portions { "0" }}},                          A103120130
content-portion {                                        A3LL
  content-portion-attributes {                           3109
    content-identifier-layout "1 1 3 0" },               4007312031203320 30
    content-information { /* Formatted string             04LL63617074696F6E..
            for the caption */ }},                       ........................................................................
layout-object {                                          A23B
  object-type block,                                     020104
```

```
descriptor-body {                                              3136
  object-identifier "1 1 4",                                   41053120312034
  user-visible-name "Para C(1)",                               8E09506172612043283129
  position {                                                   A308
      horizontal 1105,                                         80020451
      vertical 11980 },                                        80022ED6
  dimensions {                                                 A408
      horizontal 7935,                                         80021EFF
      vertical fixed 1075 },                                   80020433
  presentation-attributes {                                    A609
      character-attributes {                                   A007
        line-spacing 300,                                      8702012C
        alignment justified }},                                880103
  content-portions { "0" }}},                                  A103120130
content-portion {                                              A3LL
  content-portion-attributes {                                 3109
    content-identifier-layout "1 1 4 0" },                     4007312031203420 30
  content-information { /* Formatted string                    04LL ...............................................................
              of C's */ }},                                    ................................................................
layout-object {                                                A232
  object-type page,                                            020102
  descriptor-body {                                            312D
    object-identifier "1 2",                                   4103312032
    user-visible-name "Body Page 2",                           8E0B426F647920506167652032
    dimensions {                                               A408
        horizontal 9920,                                       800226C0
        vertical fixed 14030 },                                800236CE
    subordinates { "0","1","2","3","4" }}},                    A00F12013012013112013212013 3
                                                                              120134
layout-object {                                                A23B
  object-type block,                                           020104
  descriptor-body {                                            3136
    object-identifier "1 2 0",                                 41053120322030
    user-visible-name "Para C(2)",                             8E09506172612043283229
    position {                                                 A308
        horizontal 1105,                                       80020451
        vertical 1105 },                                       80020451
    dimensions {                                               A408
        horizontal 7935,                                       80021EFF
        vertical fixed 1275 },                                 800206F9
    presentation-attributes {                                  A609
        character-attributes {                                 A007
          line-spacing 300,                                    8702012C
          alignment justified }},                              880103
    content-portions { "0" }}},                                A003120130
content-portion {                                              A3LL
  content-portion-attributes {                                 3109
    content-identifier-layout "1 2 0 0" },                     4007312032303020 30
  content-information { /* Formatted string                    04LL4343 .......................................................
              of C's */ }},                                    .................................................................
layout-object {                                                A238
  object-type block,                                           020104
  descriptor-body {                                            3133
    object-identifier "1 2 1",                                 41053120322031
    user-visible-name "Para D",                                8E06506172612044
    position {                                                 A308
        horizontal 1105,                                       80020451
        vertical 3260 },                                       80020CBC
    dimensions {                                               A408
        horizontal 7935,                                       80021EFF
        vertical fixed 1615 },                                 8002064F
    presentation-attributes {                                  A609
        character-attributes {                                 A007
          line-spacing 300,                                    8702012C
          alignment justified }},                              880103
    content-portions { "0" }}},                                A103120130
```

content-portion {	A3LL
content-portion-attributes {	3109
content-identifier-layout "1 2 1 0" },	4007312032220312030
content-information { /* Formatted string	04LL444444 ....
of D's */ }},	....
layout-object {	A238
object-type block,	020104
descriptor-body {	3133
object-identifier "1 2 2",	41053120322032
user-visible-name "Ending",	8E06456E64696E67
position {	A308
horizontal 1985,	800207C1
vertical 5755 },	8002167B
dimensions {	A408
horizontal 6860,	80021ACC
vertical fixed 2155 },	8002086B
presentation-attributes {	A609
character-attributes {	A007
line-spacing 300,	8702012C
alignment justified }},	880103
content-portions { "0" }}},	A103120130
content-portion {	A3LL
content-portion-attributes {	3109
content-identifier-layout "1 2 2 0" },	4007312032220322030
content-information { /* Formatted string of	04LL464F524D414C2045
FORMAL ENDING */ }},	4E44494E47 ....
layout-object {	A23D
object-type block,	020104
descriptor-body {	3138
object-identifier "1 2 3",	41053120322033
user-visible-name "Signature",	8E095369676E6174757265
position {	A308
horizontal 3260,	80020CBC
vertical 8675 },	800221E3
dimensions {	A408
horizontal 5585,	800215D1
vertical fixed 2495 },	800209BF
presentation-attributes {	A60B
content-architecture-class	
{ 2 8 2 7 0 },	060458020700
raster-graphics-attributes {	A103
pel-transmission-density p2 }},	820105
content-portions { "0" }}},	A103120130
content-portion {	A3LL
content-portion-attributes {	310F
content-identifier-layout "1 2 3 0",	4007312032220332030
raster-gr-coding-attributes {	A204
number-of-pels-per-line 1117 }},	8002045D
content-information { /* Array of	04LL ....
raster-graphics content	....
elements for the	....
signature */ }},	....
layout-object {	A233
object-type block,	020104
descriptor-body {	312E
object-identifier "1 2 4",	41053120322034
user-visible-name "Name",	8E044E616D65
position {	A308
horizontal 5950,	8002173E
vertical 11170 },	80022BA2
dimensions {	A408
horizontal 2520,	800209D8
vertical fixed 905 },	80020389
presentation-attributes {	A606
character-attributes {	A004
line-spacing 300 }},	8702012C
content-portions { "0" }}},	A103120130

```
content-portion {                                           A3LL
  content-portion-attributes {                              3109
    content-identifier-layout "1 2 4 0" },                  4007312203220342030
    content-information { "Miss Aude HEA\n                   04LL4D697373...............................................
              Document Architect" }}                        ...............................................
```

D.2   Exemple 2: Document spécimen de l'Annexe B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; structure logique spécifique seulement

```
document-profile {                                          A072
  presentation-styles "1",                                  860131
  specific-logical-structure "1",                           850131
  document-characteristics {                                A26A
    document-architecture-class
      formatted-processable,                                810101
    content-architecture-classes {                          A512
      { 2 8 2 6 1 },                                        060458020601
      { 2 8 2 7 1 },                                        060458020701
      { 2 8 2 8 0 }},                                       060458020800
    interchange-format-class if-a,                          860100
    oda-version {                                           A84E
      standard-or-recommendation                            43424954552D54205265632E2054
        "ITU-T Rec. T.410 Series (1993) | ISO/IEC 8613:1994;  2E34313020536572696573202831
        version 2.00",                                      39393329207C2049534F2F494543
                                                            2038363133203A20313939343B20
                                                            76657273696F6E20322E3030
      publication-date "19920501" }}} ,                     44083139393230353031
presentation-style {                                        A70D
  style-identifier "5 0",                                   4503352030
  presentation-attributes {                                 A306
    character-attributes {                                  A004
      line-spacing 300 }}},                                 8702012C
presentation-style {                                        A711
  style-identifier "5 1",                                   4503352031
  presentation-attributes {                                 A30A
    character-attributes {                                  A008
      first-line-offset 1417,                               97020589
      line-spacing 300 }}},                                 8702012C
presentation-style {                                        A714
  style-identifier "5 2",                                   4503352032
  presentation-attributes {                                 A30D
    character-attributes {                                  A00B
      first-line-offset 1417,                               97020589
      alignment justified,                                  880103
      line-spacing 300 }}},                                 8702012C
presentation-style {                                        A714
  style-identifier "5 3",                                   4503352033
  presentation-attributes {                                 A30D
    character-attributes {                                  A00B
      first-line-offset 1020,                               970203FC
      alignment justified,                                  880103
      line-spacing 300 } } },                               8702012C
presentation-style {                                        A714
  style-identifier "5 4",                                   4503352034
  presentation-attributes {                                 A30D
    character-attributes {                                  A00B
      first-line-offset 1417,                               97020589
      alignment justified,                                  880103
      line-spacing 400 }}},                                 87020190
logical-object {                                            A624
  object-type document-logical-root,                        020100
  descriptor-body {                                         311F
    object-identifier "3",                                  410133
    user-visible-name "Letter",                             8E064C6574746572
    subordinates { "0","1" },                               A0061201301201310
    default-value-lists {                                   A70A
```

basic-logical-attributes {	A608
presentation-attributes {	A306
content-architecture-class	060458020601
{ 2 8 2 6 1 }}}}}},	
logical-object {	A620
object-type composite-logical,	020101
descriptor-body {	311B
object-identifier "3 0",	4103332030
user-visible-name "Header",	8E06486561646572
subordinates { "0","1","2","3" }}},	A00C120130120131120132120133
logical-object {	A617
object-type basic-logical,	020102
descriptor-body {	3112
object-identifier "3 0 0",	41053320302030
user-visible-name "Date",	8E0444617465
content-portions { "0" }}},	A103120130
logical-object {	A61C
object-type basic-logical,	020102
descriptor-body {	3117
object-identifier "3 0 1",	41053320302031
user-visible-name "Addressee",	8E094164647265737365 65
content-portions { "0" }}},	A103120130
logical-object {	A61F
object-type basic-logical,	020102
descriptor-body {	311A
object-identifier "3 0 2",	41053320302032
user-visible-name "Subject",	8E075375626A656374
presentation-style "5 0",	9103352030
content-portions { "0" }}},	A103120130
logical-object {	A61A
object-type composite-logical,	020101
descriptor-body {	3115
object-identifier "3 0 3",	41053320302033
user-visible-name "Summary",	8E0753756D6D617279
subordinates { "0" }}},	A003120130
logical-object {	A62B
object-type basic-logical,	020102
descriptor-body {	3126
object-identifier "3 0 3 0",	410733203020332030
user-visible-name "Summary-paragraph",	8E1153756D6D617279
	2D706172616772617068
presentation-style "5 1",	9103352031
content-portions { "0" }}},	A103120130
logical-object {	A627
object-type composite-logical,	020101
descriptor-body {	3122
object-identifier "3 1",	4103332031
user-visible-name "Body",	8E04426F6479
subordinates { "0","1","2","3","4",	A015120130120131120132120133120134120135120136
"5","6" }}},	
logical-object {	A623
object-type basic-logical,	020102
descriptor-body {	311E
object-identifier "3 1 0",	41053320312030
user-visible-name "Paragraph A",	8E0B5061726167726170682041
presentation-style "5 2",	9103352032
content-portions { "0" }}},	A103120130
logical-object {	A623
object-type basic-logical,	020102
descriptor-body {	311E
object-identifier "3 1 1",	41053320312031
user-visible-name "Paragraph B",	8E0B5061726167726170682042
presentation-style "5 2",	9103352032
content-portions { "0" }}},	A103120130
logical-object {	A61C
object-type composite-logical,	020101

descriptor-body {	3117
object-identifier "3 1 2",	41053320322032
user-visible-name "Figure",	8E06466967757265
subordinates { "0","1" }}},	A006120130120131
logical-object {	A624
object-type basic-logical,	020102
descriptor-body {	311F
object-identifier "3 1 2 0",	4107733203120322030
user-visible-name "Drawing",	8E0744726177696E67
presentation-attributes {	A606
content-architecture-class	060458020800
{ 2 8 2 8 0 }},	
content-portions { "0" }}},	A103120130
logical-object {	A61C
object-type basic-logical,	020102
descriptor-body {	3117
object-identifier "3 1 2 1",	4107733203120322031
user-visible-name "Caption",	8E0743617074696F6E
content-portions { "0" }}},	A103120130
logical-object {	A623
object-type basic-logical,	020102
descriptor-body {	311E
object-identifier "3 1 3",	41053320312033
user-visible-name "Paragraph C",	8E0B506172616772617068 2043
presentation-style "5 2",	9103352032
content-portions { "0" }}},	A103120130
logical-object {	A623
object-type basic-logical,	020102
descriptor-body {	311E
object-identifier "3 1 4",	41053320312034
user-visible-name "Paragraph D",	8E0B506172616772617068 2044
presentation-style "5 2",	9103352032
content-portions { "0" }}},	A103120130
logical-object {	A61E
object-type basic-logical,	020102
descriptor-body {	3119
object-identifier "3 1 5",	41053320312035
user-visible-name "Ending",	8E06456E64696E67
presentation-style "5 3",	9103352033
content-portions { "0" }}},	A103120130
logical-object {	A628
object-type composite-logical,	020101
descriptor-body {	3123
object-identifier "3 1 6",	41053320312036
user-visible-name "Signature and Name",	8E125369676E617475726520 616E64204E616D65
subordinates { "0","1" }}},	A006120130120131
logical-object {	A626
object-type basic-logical,	020102
descriptor-body {	3121
object-identifier "3 1 6 0",	4107733203120362030
user-visible-name "Signature",	8E095369676E6174757265
presentation-attributes {	A606
content-architecture-class	060458020701
{ 2 8 2 7 1 }},	
content-portions { "0" }}},	A103120130
logical-object {	A61E
object-type basic-logical,	020102
descriptor-body {	3119
object-identifier "3 1 6 1",	4107733203120362031
user-visible-name "Name",	8E044E616D65
presentation-style "5 0",	9103352030
content-portions { "0" }}},	A103120130
content-portion {	A321
content-portion-attributes {	3109
content-identifier-logical "3 0 0 0" },	8407733203020302030
content-information { "CESSON, 26	
JUNE 1985" }},	0414434553534F4E2C 31393835

```
content-portion {                                          A32C
    content-portion-attributes {                           3109
        content-identifier-logical "3 0 1 0" },            840733203020312030
        content-information { "To members
                of ISO/TC97/SC18/WG3" }},                  041F546F206D656D62657273..
content-portion {                                          A3LL
    content-portion-attributes {                           3109
        content-identifier-logical "3 0 2 0" },            840733203020322030
        content-information { "SUBJECT: PROPOSED            04LL5456424A4543553A..
                EXAMPLE TO CLARIFY THE
                DOCUMENT ARCHITECTURE
                MODEL" }},                              ...................................................4D4F44454C
content-portion {                                          A3LL
    content-portion-attributes {                           310B
        content-identifier-logical "3 0 3 0 0" },          840933203020203320302030
        content-information { /* Unformatted string of     04LL53554D4D415259...................................
                SUMMARY-*/ }},
content-portion {                                          A3LL
    content-portion-attributes {                           3109
        content-identifier-logical "3 1 0 0" },            840733203120302030
        content-information { /* Unformatted string of
                A's */ }},                                 04LL414141 ........................................
content-portion {                                          A3LL
    content-portion-attributes {                           3109
        content-identifier-logical "3 1 1 0" },            840733203120312030
        content-information { /* Unformatted string of
                B's */ }},                                 04LL4242424242.............................................
content-portion {                                          A3LL
    content-portion-attributes {                           310B
        content-identifier-logical "3 1 2 0 0" },          840933203120322030302030
        content-information { /* Ordered set of            04LL ................................................
                geometric-graphics
                content elements for
                the diagram */ }},
content-portion {                                          A3LL
    content-portion-attributes {                           310B
        content-identifier-logical "3 1 2 1 0" },          840933203120322031312030
        content-information { /* Unformatted string         04LL63617074696F6E...................................
                for the caption */ }},                     .........................................................
content-portion {                                          A3LL
    content-portion-attributes {                           3109
        content-identifier-logical "3 1 3 0" },            840733203120332030
        content-information { /* Unformatted string of
                C's */ }},                                 04LL4343434343.............................................
content-portion {                                          A3LL
    content-portion-attributes {                           3109
        content-identifier-logical "3 1 4 0" },            840733203120342030
        content-information { /* Unformatted                04LL44444444 .............................................
                string of D's */ }},
content-portion {                                          A3LL
    content-portion-attributes {                           3109
        content-identifier-logical "3 1 5 0" },            840733203120352030
        content-information { /* Unformatted string         04LL464F524D414C20
                for Ending */ }},                          454E44494E47 .............................................
content-portion {                                          A3LL
    content-portion-attributes {                           3111
        content-identifier-logical "3 1 6 0 0",            840933203120362020302030
        raster-gr-coding-attributes {                      A204
            number-of-pels-per-line 1117 }},               8002045D
        content-information { /* Array of                  04LLZZZZZZZZZZZZ...............................
                raster-graphics                            .........................................................
                content elements for                      .........................................................
                the signature */ }},                      .........................................................
content-portion {                                          A3LL
    content-portion-attributes {                           310B
        content-identifier-logical "3 1 6 1 0" },          840933203120362031312030
        content-information { "Miss Aude HEA Document       04LL4D697373.............................................
                Architect" }}                              .........................................................
```

D.3   Exemple 3: Document spécimen de l'Annexe B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; structure physique générique, structures logique générique et logique spécifique

document-profile {	A07B
generic-layout-structure "1",	800131
generic-logical-structure "1",	840131
presentation-styles "1",	860131
layout-styles "1",	870131
specific-logical-structure "1",	850131
document-characteristics {	A26A
document-architecture-class	
processable,	810101
content-architecture-classes {	A512
{ 2 8 2 6 1 },	060458020601
{ 2 8 2 7 0 },	060458020700
{ 2 8 2 8 0 }},	060458020800
interchange-format-class if-a,	860100
oda-version {	A84E
standard-or-recommendation	43424954552D54205265632E2054
"ITU-T Rec. T.410 Series (1993) | ISO/IEC 8613:1994;	2E3431302053656572696573202831
version 2.00",	39393329207C2049534F2F494543
	2038363133203A20313939343B20
	76657273696F6E20322E3030
publication-date "19920501" }}},	440831393932303530531
layout-object-class {	A122
object-type document-layout-root,	020100
descriptor-body {	311D
object-class-identifier "0",	410130
user-visible-name "Letter",	8E064C6574746572
generator-for-subordinates {	A010
sequence-construction	A00E
required-construction-factor	A005
object-class-identifier "0 0",	4103302030
repetitive-construction-factor	A205
object-class-identifier "0 1" }}},	4103302031
layout-object-class {	A14D
object-type page,	020102
descriptor-body {	3148
object-class-identifier "0 0",	4103302030
user-visible-name "Header",	8E06486561646572
dimensions {	A408
horizontal fixed 9920,	800226C0
vertical fixed 14030 },	800236CE
generator-for-subordinates {	A02F
sequence-construction	A02D
required-construction-factor	A007
object-class-identifier "0 0 0",	41053020302030
required-construction-factor	A007
object-class-identifier "0 0 1",	41053020302031
required-construction-factor	A007
object-class-identifier "0 0 2",	41053020302032
required-construction-factor	A007
object-class-identifier "0 0 3",	41053020302033
required-construction-factor	A007
object-class-identifier	
"0 0 4" }}},	41053020302034
layout-object-class {	A12F
object-type frame,	020103
descriptor-body {	312A
object-class-identifier "0 0 0",	41053020302030
position {	
fixed-position {	A308
horizontal 710,	800202C6
vertical 730 }},	800202DA
dimensions {	A408
horizontal fixed 3685,	80020E65
vertical fixed 2495 },	800209BF

generator-for-subordinates {	A00D
single-term-construction	A30B
required-construction-factor	A009
object-class-identifier	
"0 0 0 0" }}},	410730203020302030
layout-object-class {	A121
object-type block,	020104
descriptor-body {	311C
object-class-identifier "0 0 0 0",	410730203020302030
user-visible-name "Logo",	8E044C6F676F
presentation-attributes {	A606
content-architecture-class	
{ 2 8 2 7 0 }},	060458020700
content-portions { "0" }}},	A103120130
layout-object-class {	A126
object-type frame,	020103
descriptor-body {	3121
object-class-identifier "0 0 1",	41053020302031
user-visible-name "Date",	8E0444617465
position {	
fixed-position {	A308
horizontal 5045,	800213B5
vertical 565 }},	80020235
dimensions {	A408
horizontal fixed 3970,	80020F82
vertical fixed 1615 }}},	8002064F
layout-object-class {	A12B
object-type frame,	020103
descriptor-body {	3126
object-class-identifier "0 0 2",	41053020302032
user-visible-name "Addressee",	8E0941646472657373656565
position {	
fixed-position {	A308
horizontal 1105,	80020451
vertical 4310 }},	800210D6
dimensions {	A408
horizontal fixed 5395,	80021513
vertical fixed 1415 }}},	80020587
layout-object-class {	A129
object-type frame,	020103
descriptor-body {	3124
object-class-identifier "0 0 3",	41053020302033
user-visible-name "Subject",	8E075375626A656374
position {	
fixed-position {	A308
horizontal 1105,	80020451
vertical 6660 }},	80021A04
dimensions {	A408
horizontal fixed 7200,	80021C20
vertical fixed 1785 }}},	800206F9
layout-object-class {	A129
object-type frame,	020103
descriptor-body {	3124
object-class-identifier "0 0 4",	41053020302034
user-visible-name "Summary",	8E0753756D6D617279
position {	
fixed-position {	A308
horizontal 2180,	80020884
vertical 9695 }},	800225DF
dimensions {	A408
horizontal fixed 6290,	80021892
vertical fixed 3570 }}},	80020DF2
layout-object-class {	A127
object-type page,	020102
descriptor-body {	3122
object-class-identifier "0 1",	4103302031
user-visible-name "Body",	8E04426F6479

```
   dimensions {                                      A408
      horizontal fixed 9920,                         800226C0
      vertical fixed 14030 },                        800236CE
   generator-for-subordinates {                      A00B
    single-term-construction                         A309
     required-construction-factor                    A007
      object-class-identifier
                "0 1 0" }}},                          41053020312030
layout-object-class {                                A126
  object-type frame,                                 020103
  descriptor-body {                                  3121
   object-class-identifier "0 1 0",                  41053020312030
   user-visible-name "Body",                         8E04426F6479
   position {
      fixed-position {                               A308
            horizontal 565,                          80020235
            vertical 565 }},                         80020235
   dimensions {                                      A408
      horizontal fixed 8815,                         8002226F
      vertical fixed 12870 }}},                      80023246
logical-object-class {                               A522
  object-type document-logical-root,                 020100
  descriptor-body {                                  311D
   object-class-identifier "2",                      410132
   user-visible-name "Letter",                       8E064C6574746572
   generator-for-subordinates {                      A010
    sequence-construction                            A00E
     required-construction-factor                    A005
      object-class-identifier "2 0",                 4103322030
     required-construction-factor                    A005
      object-class-identifier
                "2 1" }}},                           4103322031
logical-object-class {                               A53A
  object-type composite-logical,                     020101
  descriptor-body {                                  3135
   object-class-identifier "2 0",                    4103322030
   user-visible-name "Header",                       8E06486561646572
   generator-for-subordinates {                      A026
    sequence-construction                            A024
     required-construction-factor                    A007
      object-class-identifier "2 0 0",               41053220302030
     required-construction-factor                    A007
      object-class-identifier "2 0 1",               41053220302031
     required-construction-factor                    A007
      object-class-identifier "2 0 2",               41053220302032
     required-construction-factor                    A007
      object-class-identifier
                "2 0 3" }}},                         41053220302033
logical-object-class {                               A51F
  object-type basic-logical,                         020102
  descriptor-body {                                  311A
   object-class-identifier "2 0 0",                  41053220302030
   user-visible-name "Date",                         8E0444617465
   layout-style "4 0",                               9303342030
   presentation-attributes {                         A606
    content-architecture-class                       060458020601
                { 2 8 2 6 1 }}}},
logical-object-class {                               A524
  object-type basic-logical,                         020102
  descriptor-body {                                  311F
   object-class-identifier "2 0 1",                  41053220302031
   user-visible-name "Addressee",                    8E094164647265737365565
   layout-style "4 1",                               9303342031
   presentation-attributes {                         A606
    content-architecture-class                       060458020601
                { 2 8 2 6 1 }}}},
```

```
logical-object-class {                                    A527
  object-type basic-logical,                              020102
  descriptor-body {                                       3122
    object-class-identifier "2 0 2",                      41053220302032
    user-visible-name "Subject",                          8E075375626A656374
    layout-style "4 2",                                   9303342032
    presentation-style "5 0",                             9103352030
    presentation-attributes {                             A606
      content-architecture-class                          060458020601
              { 2 8 2 6 1 }}}},
logical-object-class {                                    A529
  object-type composite-logical,                          020101
  descriptor-body {                                       3124
    object-class-identifier "2 0 3",                      41053220302033
    user-visible-name "Summary",                          8E0753756D6D617279
    layout-style "4 3",                                   9303342033
    generator-for-subordinates {                          A00D
     single-term-construction                             A30B
      repetitive-construction-factor                      A309
        object-class-identifier
              "2 0 3 1" }}},                              410732203020332031
logical-object-class {                                    A533
  object-type basic-logical,                              020102
  descriptor-body {                                       312E
    object-class-identifier "2 0 3 1",                    410732203020332031
    user-visible-name "Summary-paragraph",                8E1153756D6D6172792D70617261
                                                          6772617068
    layout-style "4 4",                                   9303342034
    presentation-style "5 1",                             9103352031
    presentation-attributes {                             A606
      content-architecture-class                          060458020601
              { 2 8 2 6 1 }}}},
logical-object-class {                                    A541
  object-type composite-logical,                          020101
  descriptor-body {                                       313C
    object-class-identifier "2 1",                        4103322031
    user-visible-name "Body",                             8E04426F6479
    layout-style "4 5",                                   9303342035
    generator-for-subordinates {                          A02A
     sequence-construction                                A028
      repetitive-construction-factor                      A214
        choice-construction                               A212
          required-construction-factor                    A007
            object-class-identifier
                "2 1 0",                                  41053220312030
          required-construction-factor                    A007
            object-class-identifier
                "2 1 1",                                  41053220312031
          required-construction-factor                    A007
            object-class-identifier
                "2 1 2",                                  41053220312032
          required-construction-factor                    A007
            object-class-identifier
                "2 1 3" }}},                              41053220312033
logical-object-class {                                    A533
  object-type composite-logical,                          020101
  descriptor-body {                                       312E
    object-class-identifier "2 1 0",                      41053220312030
    user-visible-name "Figure",                           8E06466967757265
    layout-style "4 6",                                   9303342036
    generator-for-subordinates {                          A018
     sequence-construction                                A016
      required-construction-factor                        A009
        object-class-identifier
                "2 1 0 0",                                410732203120302030
      required-construction-factor                        A009
        object-class-identifier
                "2 1 0 1" }}},                            410732203120302031
```

logical-object-class {	A524
object-type basic-logical,	020102
descriptor-body {	311F
object-class-identifier "2 1 0 0",	4107322031203020 30
user-visible-name "Drawing",	8E0744726177696E67
presentation-attributes {	A606
content-architecture-class	060458020800
{ 2 8 2 8 0 }},	
layout-style "4 7" }},	9303342037
logical-object-class {	A524
object-type basic-logical,	020102
descriptor-body {	311F
object-class-identifier "2 1 0 1",	4107322031203020 31
user-visible-name "Caption",	8E0743617074696F6E
layout-style "4 8",	9303342038
presentation-attributes {	A606
content-architecture-class	060458020601
{ 2 8 2 6 1 }}}},	
logical-object-class {	A52E
object-type basic-logical,	020102
descriptor-body {	3129
object-class-identifier "2 1 1",	41053220312031
user-visible-name "Body-paragraph",	8E0E426F64792D70617261677261
	7068
layout-style "4 9",	9303342039
presentation-style "5 3",	9103352033
presentation-attributes {	A606
content-architecture-class	060458020601
{ 2 8 2 6 1 }}}},	
logical-object-class {	A52C
object-type basic-logical,	020102
descriptor-body {	3127
object-class-identifier "2 1 2",	41053220312032
user-visible-name "Ending",	8E06456E64696E67
layout-style "4 10",	930434203130
presentation-style "5 4",	9103352034
content-portions { "0" },	A103120130
presentation-attributes {	A606
content-architecture-class	060458020601
{ 2 8 2 6 1 }}}},	
logical-object-class {	A53A
object-type composite-logical,	020101
descriptor-body {	3135
object-class-identifier "2 1 3",	41053220312033
user-visible-name "Signature-and-Name",	8E125369676E61747572652D616E
	642D4E616D65
generator-for-subordinates {	A018
sequence-construction	A016
required-construction-factor	A009
object-class-identifier	
"2 1 3 0",	4107322031203320 30
required-construction-factor	A009
object-class-identifier	
"2 1 3 1" }}},	4107322031203320 31
logical-object-class {	A527
object-type basic-logical,	020102
descriptor-body {	3122
object-class-identifier "2 1 3 0",	4107322031203320 30
user-visible-name "Signature",	8E095369676E6174757265
presentation-attributes {	A606
content-architecture-class	060458020701
{ 2 8 2 7 1 }},	
layout-style "4 11" }},	930434203131
logical-object-class {	A527
object-type basic-logical,	020101
descriptor-body {	3122
object-class-identifier "2 1 3 1",	4107322031203320 31

user-visible-name "Name",	8E044E616D65
layout-style "4 12",	930434203132
presentation-style "5 0",	9103352030
presentation-attributes {	A606
content-architecture-class	060458020601
{ 2 8 2 6 1 }}}},	
content-portion {	A3LL
content-portion-attributes {	3111
content-identifier-layout "0 0 0 0 0",	40073020030203020302030
raster-gr-coding-attributes {	A204
number-of-pels-per-line 737 }},	800202E1
content-information { /* Array of	
raster-graphics	04LL ....
content elements for	....
the logo */ }},	....
content-portion {	A3LL
content-portion-attributes {	3109
content-identifier-logical "2 1 2 0" },	8407322031203220 30
content-information { /* Unformatted string	04LL ....
of ending */ }},	....
presentation-style {	A70D
style-identifier "5 0",	4503352030
presentation-attributes {	A306
character-attributes {	A004
line-spacing 300 }}},	8702012C
presentation-style {	A710
style-identifier "5 1",	4503352031
presentation-attributes {	A309
character-attributes {	A007
first-line-offset 1417,	97020589
alignment justified }}},	880103
presentation-style {	A714
style-identifier "5 3",	4503352033
presentation-attributes {	A30D
character-attributes {	A00B
first-line-offset 1417,	97020589
alignment justified,	880103
line-spacing 300 }}},	8702012C
presentation-style {	A714
style-identifier "5 4",	4503352034
presentation-attributes {	A30D
character-attributes {	A00B
first-line-offset 1020,	970203FC
alignment justified,	880103
line-spacing 300 }}},	8702012C
layout-style {	A818
style-identifier "4 0",	4503342030
layout-directives {	A411
layout-object-class "0 0 1",	8B053020302031
offset {	A408
trailing 710,	820202C6
right-hand 395 }}},	8002018B
layout-style {	A80E
style-identifier "4 1",	4503342031
layout-directives {	A407
layout-object-class "0 0 2" }},	8B053020302032
layout-style {	A80E
style-identifier "4 2",	4503342032
layout-directives {	A407
layout-object-class "0 0 3" }},	8B053020302033
layout-style {	A80E
style-identifier "4 3",	4503342033
layout-directives {	A407
layout-object-class "0 0 4" }},	8B053020302034
layout-style {	A80D
style-identifier "4 4",	4503342034
layout-directives {	A406

offset {	A404
left-hand 705 }}},	810202C1
layout-style {	A80C
style-identifier "4 5",	4503342035
layout-directives {	A405
new-layout-object {	
to-layout-object-class "0 1" }}},	8703302031
layout-style {	A80E
style-identifier "4 6",	4503342036
layout-directives {	A407
indivisibility {	
to-layout-object-class "0 1 0" }}},	80053020312030
layout-style {	A817
style-identifier "4 7",	4503342037
layout-directives {	A410
offset {	A408
right-hand 1615,	8002064F
left-hand 2155 },	8102086B
separation {	A304
trailing 905 }}},	81020389
layout-style {	A817
style-identifier "4 8",	4503342038
layout-directives {	A410
offset {	A408
right-hand 1985,	800207C1
left-hand 2860 },	81020B2C
separation {	A304
trailing 200 }}},	810200C8
layout-style {	A81F
style-identifier "4 9",	4503342039
layout-directives {	A418
offset {	A410
trailing 540,	8202021C
leading 280,	83020118
right-hand 540,	8002021C
left-hand 340 },	81020154
separation {	A304
trailing 880 }}},	81020370
layout-style {	A818
style-identifier "4 10",	450434203130
layout-directives {	A410
offset {	A408
right-hand 1420,	8002058C
left-hand 535 },	81020217
separation {	A304
trailing 880 }}},	81020370
layout-style {	A818
style-identifier "4 11",	450434203131
layout-directives {	A410
offset {	A408
right-hand 2695,	80020A87
left-hand 535 },	81020217
separation {	A304
trailing 765 }}},	810202FD
layout-style {	A812
style-identifier "4 12",	450434203132
layout-directives {	A40A
offset {	A408
right-hand 5385,	80021509
left-hand 910 }}},	8102038E
logical-object {	A61B
object-type document-logical-root,	020100
descriptor-body {	3116
object-identifier "3",	410133
object-class "2",	820132
user-visible-name "Letter",	8E064C6574746572
subordinates { "0","1" }}},	A006120130120131

```
logical-object {                                          A625
  object-type composite-logical,                          020101
  descriptor-body {                                       3120
    object-identifier "3 0",                              4103332030
    object-class "2 0",                                   8203322030
    user-visible-name "Header",                           8E06486561646572
    subordinates { "0","1","2","3" }}},                   A00C12013012013112013212 0133
logical-object {                                          A61E
  object-type basic-logical,                              020102
  descriptor-body {                                       3119
    object-identifier "3 0 0",                            41053320302030
    object-class "2 0 0",                                 82053220302030
    user-visible-name "Date",                             8E0444617465
    content-portions { "0" }}},                           A103120130
logical-object {                                          A623
  object-type basic-logical,                              020102
  descriptor-body {                                       311E
    object-identifier "3 0 1",                            41053320302031
    object-class "2 0 1",                                 82053220302031
    user-visible-name "Addressee",                        8E09416464726573736565
    content-portions { "0" }}},                           A103120130
logical-object {                                          A621
  object-type basic-logical,                              020102
  descriptor-body {                                       311C
    object-identifier "3 0 2",                            41053320302032
    object-class "2 0 2",                                 82053220302032
    user-visible-name "Subject",                          8E075375626A656374
    content-portions { "0" }}},                           A103120130
logical-object {                                          A621
  object-type composite-logical,                          020101
  descriptor-body {                                       311C
    object-identifier "3 0 3",                            41053320302033
    object-class "2 0 3",                                 82053220302033
    user-visible-name "Summary",                          8E0753756D6D617279
    subordinates { "0" }}},                               A003120130
logical-object {                                          A62F
  object-type basic-logical,                              020102
  descriptor-body {                                       312A
    object-identifier "3 0 3 0",                          410733203020332030
    object-class "2 0 3 1",                               820732203020332031
    user-visible-name "Summary-paragraph",                8E1153756D6D617279
                                                          2D706172616772617068
    content-portions { "0" }}},                           A103120130
logical-object {                                          A62C
  object-type composite-logical,                          020101
  descriptor-body {                                       3127
    object-identifier "3 1",                              4103332031
    object-class "2 1",                                   8203322031
    user-visible-name "Body",                             8E04426F6479
    subordinates { "0","1","2","3","4",
                   "5","6" }}},                            A01512013012013112013212 0133
                                                               120134120135120136
logical-object {                                          A625
  object-type basic-logical,                              020102
  descriptor-body {                                       3120
    object-identifier "3 1 0",                            41053320312030
    object-class "2 1 1",                                 82053220312031
    user-visible-name "Paragraph A",                      8E0B506172616772617068 2041
  content-portions { "0" }}},                             A103120130
logical-object {                                          A62D
  object-type basic-logical,                              020102
  descriptor-body {                                       3128
    object-identifier "3 1 1",                            41053320312031
    object-class "2 1 1",                                 82053220312031
    user-visible-name "Paragraph B",                      8E0B506172616772617068 2042
```

```
        presentation-attributes {                          A606
             character-attributes {                        A004
                  line-spacing 400 }},                      87020190
        content-portions { "0" }}},                         A103120130
logical-object {                                            A623
  object-type composite-logical,                            020101
  descriptor-body {                                         311E
    object-identifier "3 1 2",                              41053320312032
    object-class "2 1 0",                                   82053220312030
    user-visible-name "Figure",                             8E06466967757265
    subordinates { "0","1" }}},                             A006120130120131
logical-object {                                            A625
  object-type basic-logical,                                020102
  descriptor-body {                                         3120
    object-identifier "3 1 2 0",                            410733203120322030
    object-class "2 1 0 0",                                 820732203120302030
    user-visible-name "Drawing",                            8E0744726177696E67
    content-portions { "0" }}},                             A103120130
logical-object {                                            A625
  object-type basic-logical,                                020102
  descriptor-body {                                         3120
    object-identifier "3 1 2 1",                            410733203120322031
    object-class "2 1 0 1",                                 820732203120302031
    user-visible-name "Caption",                            8E0743617074696F6E
    content-portions { "0" }}},                             A103120130
logical-object {                                            A625
  object-type basic-logical,                                020102
  descriptor-body {                                         3120
    object-identifier "3 1 3",                              41053320312033
    object-class "2 1 1",                                   82053220312031
    user-visible-name "Paragraph C",                        8E0B506172616772617068204 3
    content-portions { "0" }}},                             A103120130
logical-object {                                            A625
  object-type basic-logical,                                020102
  descriptor-body {                                         3120
    object-identifier "3 1 4",                              41053320312034
    object-class "2 1 1",                                   82053220312031
    user-visible-name "Paragraph D",                        8E0B506172616772617068204 4
    content-portions { "0" }}},                             A103120130
logical-object {                                            A61B
  object-type basic-logical,                                020102
  descriptor-body {                                         3116
    object-identifier "3 1 5",                              41053320312035
    object-class "2 1 2",                                   82053220312032
    user-visible-name "Ending" }},                          8E06456E64696E67
logical-object {                                            A62F
  object-type composite-logical,                            020101
  descriptor-body {                                         312A
    object-identifier "3 1 6",                              41053320312036
    object-class "2 1 3",                                   82053220312033
    user-visible-name "Signature and Name",                 8E125369676E617475726520
                                                                   616E64204E616D65
    subordinates { "0","1" }}},                             A006120130120131
logical-object {                                            A627
  object-type basic-logical,                                020102
  descriptor-body {                                         3122
    object-identifier "3 1 6 0",                            410733203120362030
    object-class "2 1 3 0",                                 820732203120332030
    user-visible-name "Signature",                          8E095369676E6174757265
    content-portions { "0" }}},                             A103120130
logical-object {                                            A622
  object-type basic-logical,                                020102
  descriptor-body {                                         311D
    object-identifier "3 1 6 1",                            410733203120362031
    object-class "2 1 3 1",                                 820732203120332031
    user-visible-name "Name",                               8E044E616D65
    content-portions { "0" }}},                             A103120130
```

content-portion {	A321
content-portion-attributes {	3109
content-identifier-logical "3 0 0 0" },	840733203020302030
content-information { "CESSON, 26 JUNE 1985" }},	0414434553534F4E2C....................31393835
content-portion {	A32C
content-portion-attributes {	3109
content-identifier-logical "3 0 1 0" },	840733203020312030
content-information { "To members of ISO/TC97	041F546F206D656D62657273..
/SC18 /WG3" }},	..4733
content-portion {	A3LL
content-portion-attributes {	3109
content-identifier-logical "3 0 2 0" },	840733203020322030
content-information { "SUBJECT: PROPOSED	
EXAMPLE TO CLARIFY THE DOCUMENT	04LL5456424A4543553A..
ARCHITECTURE MODEL" }},	....4D4F44454C
content-portion {	A3LL
content-portion-attributes {	310B
content-identifier-logical "3 0 3 0 0" },	8409332030203320302030
content-information { /* Unformatted string	04LL53554D4D415259..................................
of SUMMARY-*/ }},	
content-portion {	A3LL
content-portion-attributes {	3109
content-identifier-logical "3 1 0 0" },	840733203120302030
content-information { /* Unformatted string of	
A's */ }},	04LL414141 ....
content-portion {	A3LL
content-portion-attributes {	3109
content-identifier-logical "3 1 1 0" },	840733203120312030
content-information { /* Unformatted string	
of B's */ }},	04LL4242424242..
content-portion {	A3LL
content-portion-attributes {	310B
content-identifier-logical "3 1 2 0 0" },	8409332031203220302030
content-information { /* Ordered set of	
geometric-graphics content	04LL ....
elements for the diagram */ }},	....
content-portion {	A3LL
content-portion-attributes {	310B
content-identifier-logical "3 1 2 1 0" },	8409332031203220312030
content-information { /* Unformatted string	
for the caption */ }},	04LL63617074696F6E....................................
content-portion {	A3LL
content-portion-attributes {	3109
content-identifier-logical "3 1 3 0" },	840733203120332030
content-information { /* Unformatted string of	
C's */ }},	04LL4343434343..
content-portion {	A3LL
content-portion-attributes {	3109
content-identifier-logical "3 1 4 0" },	840733203120342030
content-information { /* Unformatted string of	
D's */ }},	04LL44444444..
content-portion {	A3LL
content-portion-attributes {	3111
content-identifier-logical "3 1 6 0 0",	8409332031203620302030
raster-gr-coding-attributes {	A204
number-of-pels-per-line 1117 }},	8002045D
content-information { /* Array of	
raster-graphics content elements	04LLZZZZZZZZZZZZ................................
for the signature */ }},	....
content-portion {	A3LL
content-portion-attributes {	310B
content-identifier-logical "3 1 6 1 0" },	8409332031203620312030
content-information { "Miss Aude HEA Document	04LL4D697373..
Architect" }}	....

D.4   **Exemple 4: Document spécimen de l'Annexe B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; structure physique spécifique seulement**

```
layout-object {                                               A21E
   object-type document-layout-root,                          020100
   descriptor-body {                                          3119
      object-identifier "1",                                  410131
      object-class "0",                                       820130
      user-visible-name "Letter",                             8E064C6574746572
      subordinates { "0","1","2" }}},                         A009120130120131120132
layout-object {                                               A228
   object-type page,                                          020102
   descriptor-body {                                          3123
      object-identifier "1 0",                                4103312030
      object-class "0 0",                                     8203302030
      user-visible-name "Header",                             8E06486561646572
      subordinates { "0","1","2","3","4" }}},                 A00F120130120131120132120133
                                                                              120134
layout-object {                                               A218
   object-type frame,                                         020103
   descriptor-body {                                          3113
      object-identifier "1 0 0",                              41053120302030
      object-class "0 0 0",                                   82053020302030
      subordinates { "0" }}},                                 A003120130
layout-object {                                               A22A
   object-type block,                                         020104
   descriptor-body {                                          3125
      object-identifier "1 0 0 0",                            41073120302030203011
      object-class "0 0 0 0",                                 820730203020302030
      user-visible-name "Logo",                               8E044C6F676F
      presentation-attributes {                               A60B
      content-architecture-class                              060458020700
            { 2 8 2 7 0 },
        raster-graphics-attributes {                          A103
          pel-transmission-density p2 }}}},                   820105
layout-object {                                               A21E
   object-type frame,                                         020103
   descriptor-body {                                          3119
      object-identifier "1 0 1",                              41053120302031
      object-class "0 0 1",                                   82053020302031
      user-visible-name "Date",                               8E0444617465
      subordinates { "0" }}},                                 A003120130
layout-object {                                               A22F
   object-type block,                                         020104
   descriptor-body {                                          312A
      object-identifier "1 0 1 0",                            4107312030203120303012030
      position {                                              A308
         horizontal 395,                                      8002018B
         vertical 710 },                                      800202C6
      dimensions {                                            A408
         horizontal 3060,                                     80020BF4
         vertical fixed 540 },                                8002021C
      content-portions { "0" },                               A103120130
      presentation-attributes {                               A606
         content-architecture-class                           060458020602
         { 2 8 2 6 2 }}}},
layout-object {                                               A223
   object-type frame,                                         020103
   descriptor-body {                                          311E
      object-identifier "1 0 2",                              41053120302032
      object-class "0 0 2",                                   82053020302032
      user-visible-name "Addressee",                          8E094164647265737365652565
      subordinates { "0" }}},                                 A003120130
layout-object {                                               A225
   object-type block,                                         020104
   descriptor-body {                                          3120
```

object-identifier "1 0 2 0",	4107312030320322030
dimensions {	A408
horizontal 4505,	80021199
vertical fixed 540 },	8002021C
content-portions{ "0" },	A103120130
presentation-attributes {	A606
content-architecture-class	060458020602
{ 2 8 2 6 2 }}}},	
layout-object {	A221
object-type frame,	020103
descriptor-body {	311C
object-identifier "1 0 3",	41053120302033
object-class "0 0 3",	82053020302033
user-visible-name "Subject",	8E075375626A656374
subordinates { "0" }}},	A003120130
layout-object {	A22A
object-type block,	020104
descriptor-body {	3125
object-identifier "1 0 3 0",	4107312030320332030
dimensions {	A408
horizontal 7200,	80021C20
vertical fixed 905 },	80020389
presentation-style "5 0",	9103352030
content-portions { "0" },	A103120130
presentation-attributes {	A606
content-architecture-class	060458020602
{ 2 8 2 6 2 }}}},	
layout-object {	A221
object-type frame,	020103
descriptor-body {	311C
object-identifier "1 0 4",	41053120302034
object-class "0 0 4",	82053020302034
user-visible-name "Summary",	8E0753756D6D617279
subordinates { "0" }}},	A003120130
layout-object {	A22A
object-type block,	020104
descriptor-body {	3125
object-identifier "1 0 4 0",	4107312030320342030
dimensions {	A408
horizontal 5585,	800215D1
vertical fixed 2325 },	80020915
presentation-style "5 1",	9103352031
content-portions { "0" },	A103120130
presentation-attributes {	A606
content-architecture-class	060458020602
{ 2 8 2 6 2 }}}},	
layout-object {	A21A
object-type page,	020102
descriptor-body {	3115
object-identifier "1 1",	4103312031
object-class "0 1",	8203302031
user-visible-name "Body",	8E04426F6479
subordinates { "0" }}},	A003120130
layout-object {	A22A
object-type frame,	020103
descriptor-body {	3125
object-identifier "1 1 0",	41053120312030
object-class "0 1 0",	82053020312030
user-visible-name "Body",	8E04426F6479
subordinates { "0","1","2","3","4" }}},	A00F120130120131120132120133120134
layout-object {	A234
object-type block,	020104
descriptor-body {	312F
object-identifier "1 1 0 0",	4107312031203 03020 30
position {	A308
horizontal 540,	8002021C
vertical 540 },	8002021C

```
        dimensions {                          A408
            horizontal 7935,                  80021EFF
            vertical fixed 1785 },            800206F9
        presentation-style "5 3",            9103352033
        content-portions { "0" },            A103120130
        presentation-attributes {            A606
            content-architecture-class       060458020602
            { 2 8 2 6 2 }}}},

layout-object {                               A23A
  object-type block,                          020104
  descriptor-body {                           3135
    object-identifier "1 1 0 1",             4107731203120302031
    position {                                A308
        horizontal 540,                       8002021C
        vertical 3205 },                      80020C85
    dimensions {                              A408
        horizontal 7935,                      80021EFF
        vertical fixed 1785 },                800206F9
    presentation-style "5 3",                 9103352033
    content-portions { "0" },                 A103120130
    presentation-attributes {                 A60C
        character-attributes {                A004
            line-spacing 400 },               87020190
        content-architecture-class            060458020602
        { 2 8 2 6 2 }}}},

layout-object {                               A22F
  object-type block,                          020104
  descriptor-body {                           312A
    object-identifier "1 1 0 2",             4107731203120302032
    position {                                A308
        horizontal 1615,                      8002064F
        vertical 6460 },                      8002193C
    dimensions {                              A408
        horizontal 5045,                      800213B5
        vertical fixed 4140 },                8002102C
    presentation-attributes {                 A606
        content-architecture-class            060458020800
        { 2 8 2 8 0 }},
    content-portions { "0" }}},              A103120130

layout-object {                               A22F
  object-type block,                          020104
  descriptor-body {                           312A
    object-identifier "1 1 0 3",             4107731203120302033
    position {                                A308
        horizontal 1985,                      800207C1
        vertical 10235 },                     800227FB
    dimensions {                              A408
        horizontal 3970,                      80020F82
        vertical fixed 370 },                 80020172
    content-portions { "0" },                A103120130
    presentation-attributes {                 A606
        content-architecture-class            060458020602
        { 2 8 2 6 2 }}}},

layout-object {                               A234
  object-type block,                          020104
  descriptor-body {                           312F
    object-identifier "1 1 0 4",             4107731203120302034
    position {                                A308
        horizontal 540,                       8002021C
        vertical 11485 },                     80022CDD
    dimensions {                              A408
        horizontal 7935,                      80021EFF
        vertical fixed 1075 },                80020433
    presentation-style "5 3",                 9103352033
    content-portions { "0" },                A103120130
    presentation-attributes {                 A606
```

content-architecture-class	060458020602
{ 2 8 2 6 2 }}}},	
layout-object {	**A21A**
object-type page,	020102
descriptor-body {	3115
object-identifier "1 2",	4103312032
object-class "0 1",	8203302031
user-visible-name "Body",	8E04426F6479
subordinates { "0" }}},	A003120130
layout-object {	**A22A**
object-type frame,	020103
descriptor-body {	3125
object-identifier "1 2 0",	41053120322030
object-class "0 1 0",	82053020312030
user-visible-name "Body",	8E04426F6479
subordinates { "0","1","2","3","4" }}},	A00F1201301201311201321201 33
	120134
layout-object {	**A234**
object-type block,	020104
descriptor-body {	312F
object-identifier "1 2 0 0",	410731203220302030
position {	A308
horizontal 540,	8002021C
vertical 540 },	8002021C
dimensions {	A408
horizontal 7935,	80021EFF
vertical fixed 1275 },	800204FB
presentation-style "5 3",	9103352033
content-portions { "0" },	A103120130
presentation-attributes {	A606
content-architecture-class	060458020602
{ 2 8 2 6 2 }}}},	
layout-object {	**A234**
object-type block,	020104
descriptor-body {	312F
object-identifier "1 2 0 1",	410731203220302031
position {	A308
horizontal 540,	8002021C
vertical 2695 },	80020A87
dimensions {	A408
horizontal 7935,	80021EFF
vertical fixed 1615 },	8002064F
presentation-style "5 3",	9103352033
content-portions { "0" },	A103120130
presentation-attributes {	A606
content-architecture-class	060458020602
{ 2 8 2 6 2 }}}},	
layout-object {	**A234**
object-type block,	020104
descriptor-body {	312F
object-identifier "1 2 0 2",	410731203220302032
position {	A308
horizontal 1820,	8002071C
vertical 5190 },	80021446
dimensions {	A408
horizontal 6860,	80021ACC
vertical fixed 2155 },	8002086B
presentation-style "5 4",	9103352034
content-portions { "0" },	A103120130
presentation-attributes {	A606
content-architecture-class	060458020602
{ 2 8 2 6 2 }}}},	
layout-object {	**A22F**
object-type block,	020104
descriptor-body {	312A
object-identifier "1 2 0 3",	410731203220302033

```
    position {                                            A308
        horizontal 2695,                                  80020A87
        vertical 8110 },                                  80021FAE
    dimensions {                                          A408
        horizontal 5585,                                  800215D1
        vertical fixed 2495 },                            800209BF
    presentation-attributes {                             A606
        content-architecture-class                        060458020700
            { 2 8 2 7 0 }},
    content-portions { "0" }}},                            A103120130
layout-object {                                           A234
  object-type block,                                      020104
  descriptor-body {                                       312F
    object-identifier "1 2 0 4",                          4107312032203020304
    position {                                            A308
        horizontal 5385,                                  80021509
        vertical 10605 },                                 8002296D
    dimensions {                                          A408
        horizontal 2520,                                  800209D8
        vertical fixed 905 },                             80020389
    presentation-style "5 0",                             9103352030
    content-portions { "0" },                             A103120130
    presentation-attributes {                             A606
        content-architecture-class                        060458020602
            { 2 8 2 6 2 }}}},
content-portion {                                         A32C
  content-portion-attributes {                            3114
    content-identifier-layout "1 0 1 0 0",                40093120302203120302030
    content-identifier-logical "3 0 0 0" },               8407332030203020302030
  content-information { "CESSON, 26 JUNE 1985" }},         0414434553534F4E2C..
                                                          ..31393835
content-portion {                                         A337
  content-portion-attributes {                            3114
    content-identifier-layout "1 0 2 0 0",                40093120302203220302030
    content-identifier-logical "3 0 1 0" },               840733203020312030
  content-information { "To members of ISO/               041F546F206D656D62657273..
        TC97/SC18/WG3" }},                                ..574733
content-portion {                                         A3LL
  content-portion-attributes {                            3114
    content-identifier-layout "1 0 3 0 0",                40093120302033320302030
    content-identifier-logical "3 0 2 0" },               840733203020322030
  content-information { "SUBJECT: PROPOSED                 04LL5456424A4543553A..
        EXAMPLE TO CLARIFY                                ..4D4F44454C
        THE DOCUMENT <SOS>\n<ST>
        ARCHITECTURE MODEL" }},
content-portion {                                         A3LL
  content-portion-attributes {                            3116
    content-identifier-layout "1 0 4 0 0",                40093120302033420302030
    content-identifier-logical "3 0 3 0 0" },             84093320302033320302030
  content-information { /* Formatted processable string of 04LL53554D4D415259.................................
        SUMMARY- */ }},
content-portion {                                         A3LL
  content-portion-attributes {                            3114
    content-identifier-layout "1 1 0 0 0",                40093120312030320302030
    content-identifier-logical "3 1 0 0" },               84073320312030302030
  content-information { /* Formatted processable string of  04LL414141 .................................................
        A's */ }},
content-portion {                                         A3LL
  content-portion-attributes {                            3114
    content-identifier-layout "1 1 0 1 0",                40093120312030320312030
    content-identifier-logical "3 1 1 0" },               84073320312030312030
  content-information { /* Formatted processable string of  04LL424242 .................................................
        B's */ }},
content-portion {                                         A3LL
  content-portion-attributes {                            3116
    content-identifier-layout "1 1 0 2 0",                40093120312030320322030
```

```
    content-identifier-logical "3 1 2 0 0" },          84093320312032203023020
  content-information { /* Ordered set of              04LL .............................................
        geometric-graphics
        content elements
        for the diagram */ }},
content-portion {                                      A3LL
  content-portion-attributes {                         3116
    content-identifier-layout "1 1 0 3 0",             4009312031203020332030
    content-identifier-logical "3 1 2 1 0" },          84093320312032203123020
  content-information { /* Formatted processable string for    04LL63617074696F6E..
        the caption */ }},
content-portion {                                      A3LL
  content-portion-attributes {                         3114
    content-identifier-layout "1 1 0 4 0",             4009312031203020342030
    content-identifier-logical "3 1 3 0" },            8407332031203320 30
  content-information { /* Formatted processable string        04LL434343 ...................................................
        of C's */ }},
content-portion {                                      A3LL
  content-portion-attributes {                         3114
    content-identifier-layout "1 2 0 0 0",             4009312032203020302030
    content-identifier-logical "3 1 3 1" } ,           8407332031203320 31
  content-information { /* Formatted processable string        04LL434343 ...................................................
        of C's */ }},
content-portion {                                      A3LL
  content-portion-attributes {                         3114
    content-identifier-layout "1 2 0 1 0",             4009312032203020312030
    content-identifier-logical "3 1 4 0" },            8407332031203420 30
  content-information { /* Formatted processable string        04LL444444 ...................................................
        of D's */ }},
content-portion {                                      A3LL
  content-portion-attributes {                         310B
    content-identifier-layout "1 2 0 2 0" },           4009312032203020322030
  content-information { /* Formatted processable string        04LL454E44494E47 ......................................
        of ENDING */ }},
content-portion {                                      A3LL
  content-portion-attributes {                         311C
    content-identifier-layout "1 2 0 3 0",             4009312032203020332030
    content-identifier-logical "3 1 6 0 0" },          84093320312036203023020
    raster-gr-coding-attributes {                      A204
       number-of-pels-per-line 1117 },                 8002045D
  content-information { /* Array of                    04LL .............................................
        raster-graphics
        content elements for
        the signature */ }},
content-portion {                                      A3LL
  content-portion-attributes {                         3116
    content-identifier-layout "1 2 0 4 0",             4009312032203020342030
    content-identifier-logical "3 1 6 1 0" },          84093320312036203123020
  content-information { "Miss Aude HEA <SOS>\n<ST>     04LL4D697373..................................................
        Document Architect" }}
```

D.5   Exemple 5: Profil du document spécimen de l'Annexe C de la Rec. UIT-T T.414 | ISO/CEI 8613-4; profil de document seulement

```
document-profile {                                        A082LLLL
  generic-layout-structure "1",                           800131
  specific-layout-structure "1",                          810131
  specific-logical-structure "1",                         850131
  resource-document                                       AA41
    descriptive-reference "Finance Master,
      Widget Inc.,4511 McKenzie,                          433F46696E616E636520
      Atlanta, Georgia, USA.",                            4D61737465722C576964
                                                          67657420496E632E2C34
                                                          353131204D634B656E7A
                                                          69652C41746C616E7461
                                                          2C2047656F726769612C
                                                          205553412E

document-characteristics {                                A2LL
  document-application-profile {    },                    84LL ....................................................
  doc-app-profile-defaults {                              AA0F
    document-architecture-defaults {                      A00D
      page-dimensions {                                   A208
        horizontal 10200,                                 800227D8
        vertical 13200 },                                 80023390
        transparency opaque (1) }},                       830101
    document-architecture-class                           810102
      formatted-processable (2),
    content-architecture-classes {                        A506060458020602
      { 2 8 2 6 2 }},
    interchange-format-class if-a (0),                    860100
    oda-version {                                         A84E
      standard-or-recommendation                          43424954552D54205265632E2054
        "ITU-T Rec. T.410 Series (1993) | ISO/IEC 8613:1994;  2E3431302053657269657320281
        version 2.00",                                    39393329207C2049534F2F494543
                                                          2038363133203A20313939343B20
                                                          76657273696F6E20322E3030
      publication-date "19920501" },                      44083139393230353031
non-basic-doc-characteristics {                           A222
  page-dimensions {                                       A20A
    { horizontal 13200,                                   300880023390
    vertical 10200 }},                                    800227D8
  medium-types {                                          A80F
    {nominal-page-size {                                  300D3008
      horizontal 10200,                                   800227D8
      vertical 13200 },                                   80023390
    side-of-sheet recto (1) }},                           020101
  protections {                                           B703
    protected (1) }},                                     020101
additional-doc-characteristics {                          A9LL
  unit-scaling { 12, 10 },                                A30602010C02010A
  fonts-list {                                            A2LL
    { font-identifier 0,                                  31LL020100
    font-reference {    }},

                                                          30LL ....................................................
    {font-identifier 1,                                   31LL020101
    font-reference {    }}}}},

                                                          30LL ....................................................
                                                          ....................................................
document-management-attributes {                          A382034F
  document-description {                                  A781E9
    title "May finance report",                           80124D61792066696E61
                                                          6E6365207265706F7274
    subject "May results",                                810B4D61792072657375
                                                          6C7473

    document-reference
      descriptive-reference
        "May financial prelim."                           A51743154D6179206669
                                                          6E616E6369616C207072
                                                          656C696D2E
```

```
document-type "Report",                              82065265706F7274
abstract "The current figures show                   83795468652063757272
        an improvement in return                     656E7420666967757265
        on assets but still show                     732073686F7720616E20
        an undercapitalization of                    696D70726F76656D656E
        production capacity.",                        7420696E207265747572
                                                      6E206F6E206173736574
                                                      7320627574207374696C
                                                      6C2073686F7720616E20
                                                      756E64657263
                                                      61706974616C697A6174
                                                      696F6E206F662070726F
                                                      64756374696F6E206361
                                                      7061636974792E

keywords {                                            A42A
  "Finance", "Financial",                             430746696E616E6365
  "May", "Return on assets" }}                        430846696E616369616C
                                                      43034D6179
                                                      431052657475726E206F
                                                      6E20617373657473


dates-and-times {                                     A048
  document-date-and-time "19880605",                  8008313938383030363035
  creation-date-and-time                              810F3139383830353233
    "19880523T162957",                                54313632393537
  local-filing-date-and-time                          A211
    { "19880605T115103" },                            440F3139383830363035
                                                      54313135313033
  expiry-date-and-time "1989",                        830431393839
  purge-date-and-time "19891231",                     85083139383931323331
  release-date-and-time "19880605" },                 8608313938383030363035
originators {                                         A18195
  organizations {                                     A022
    "Widget Inc., Finance and Control" },             43205769646765742049
                                                      6E632E2C2046696E616E
                                                      636520616E6420436F6E
                                                      74726F6C

  preparers {                                         A1193117
    {personal-name {                                  A015
      surname "Maltby",                               80064D616C746279
      givenname "Reginald",                           8108526567696E616C64
      initials "P" }}},                               820150
  owners {                                            A2353133
    { organization                                    81315769646765742049
      "Widget Inc., 4511 McKenzie,                    6E632E2C203435313120
                                                      4D634B656E7A69652C20
      Atlanta, Georgia, USA." }},                     41746C616E74612C4765
                                                      6F726769612C20555341
                                                      2E
  authors {                                           A31D311B
    { organization                                    81194465776579
      "Dewey, Cheatam & Howe CPA" }}},                2C204368656174616D20
                                                      2620486F7765
                                                      20435041

other-user-information {                              A2819B
  copyright {                                         A01A3118
    copyright-information { "Widget Inc." },          A00E
                                                      430C5769646765742049
                                                      6E632E2C
    copyright-dates { "1988" }},                      A106440431393838
  status "May final report",                          81104D61792066696E61
                                                      6C207265706F7274

  distribution-list {                                 A350
    {personal-name {                                  310CA00A
      surname "Marks",                                80054D61726B73
      initials "D" }},                                820144
    { personal-name {                                 3115A00A
      surname "Bucks",                                80054275636B73
      initials "B" },                                 820142
      organization "Finance" },                       810746696E616E6365
```

{ personal-name {	311CA012
surname "Pencil",	800650656E63696C
givenname "James",	81054A616D6573
initials "K" },	82014B
organization "Audits" },	810641756469747373
{ personal-name {	310BA009
surname "Duck",	80044475636B
initials "D" }}},	820144
additional-information	A519
"Signature receipt req'd" },	43175369676E61747572
	65207265636569707420
	7265712764
external-references {	A350
references-to-other-documents {	A03B
descriptive-reference	4314417072696C206669
"April finance report",	6E616E6365207265706F
	7274
descriptive-reference	430B4D61792062616C61
"May balance",	6E6365
descriptive-reference	43164D6179206163636F
"May accounting prelim." },	756E74696E6720707265
	6C696D2E
superceded-documents {	A111
descriptive-reference	430F4D6179206669696E61
"May financial A" }},	6E6369616C2041
local-file-references {	A43B
{ file-name "mayfin",	311C
	80066D617966696E
location "financial_previous" },	811266696E616E636961
	6C5F70726576696F7573
{ file-name "mayfin",	311B
	80066D617966696E
location "financial_current" }},	811166696E616E636961
	6C5F63757272656E74
content-attributes {	A516
document-size 40447,	8103009DFF
number-of-pages 16,	820110
languages { "US English" }},	A40C
	430A555320456E676C69
	7368
security information {	A63A
authorization {	
organization "Widget Inc., Finance" },	84145769646765742049
	6E632E2C2046696E616E
	6365
security-classification	8111436F6D70616E7920
"Company Financial",	46696E616E6369616C
access-rights "Finance Group" }}}	A20F
	430D46696E616E636520
	47726F7570

Annexe E

Langage de document ouvert (ODL) (open document language)

(Cette annexe fait partie intégrante de la présente Norme internationale)

This annex is applicable to ISO/IEC 8613-5 only.

NOTE – To maintain correspondence in clause numbering between ITU-T Recommendation T.415 and ISO/IEC 8613-5, this portion of the Open Document Language (ODL) is specified in a normative annex rather than in the body of this Specification.

E.1   Introduction

This annex specifies a standardized SGML representation of ODA documents, known as the Open Document Language (ODL). ODL is an SGML application conforming to ISO 8879.

This annex also includes rules for using the SGML Document Interchange Format (SDIF) for ODA/ODL documents.

The definitions of ISO 8879 apply to this annex.

NOTES

1   ODL applies SGML to the representation of ODA documents. The specification of ODL focuses on areas that require significant choices to be made: it does not attempt to restate the normal rules of either SGML or ODA for "business as usual". Therefore, if an item is not discussed explicitly:

   a)   On issues of semantics, normal ODA rules apply (e.g. allowable attribute values).

   b)   On issues of syntax, normal SGML rules apply (e.g. formulation of generic identifiers). Frequently, these rules allow wide latitude to an implementation with no adverse effect on interchange.

For example, SGML requires object class identifiers (element type names, or "generic identifiers (GIs)") to be unique to an element type and to conform to certain syntactic rules. An ODL implementation could, therefore, generate GIs sequentially (G1, G2, ..., Gn). E.2.2.6, however, recommends that GIs be based on ("normally derived from") user-visible names. The preferred "derivation" obviously would be to use the user-visible name "as is" as the GI, but where this is not possible (none specified, not unique, or non-compliance with syntax), an implementation would generate a different name. (Note that there is no constraint on the user-visible name itself; only on the GI.)

2   SGML applications are classified as "structure-controlled" if they operate on the structure that the markup describes, or "markup-sensitive" if they operate on the markup itself. The ODA layout process is a structure-controlled application, while editing an ODA document or converting it from one interchange format to another are markup-sensitive.

The ODL specification defines the precise representation of all ODA processing semantics, thereby permitting "round trips" between ODIF and ODL that will yield the same processing fidelity for structure-controlled applications as interchange with a single format. However, several non-semantic ODA attributes that are used only in markup-sensitive applications are represented using a single SGML construct called a "comment". The means by which these kinds of information are distinguished from one another in ODL is left to the implementation (e.g. both user-visible names and user-readable comments are representable as SGML comments, but an implementation could distinguish between the two by a convention such as beginning the comment with **"URC:"** or **"UVN:"**).

3   For both ODIF and ODL, the base notation parser (ASN.1 or SGML) must be supplemented by ODA-specific parsers. For example, an ODIF parser must validate and resolve cross-references to ODA object identifiers, a function that is an intrinsic part of an SGML parser. An ODL parser, however, will need to segregate components of an attribute value with constructed parameters, which is done intrinsically by ASN.1. In some cases, both ODIF and ODL parsers will need to accomplish the same task, such as resolving defaulted attribute values. (A system that supported both could probably do such tasks with common code.)

4   In both ODIF and SDIF, content portions are normally represented in the ASN.1 data stream as distinct structure components, corresponding, in the case of SDIF, to data entities. In the case of character content, this technique avoids the problem – inherent in all character-based parsing – of data characters that could confuse the parsers. ODL/SDIF can, therefore, represent multiple character sets and control characters to the same extent as ODIF (and with the same efficiency, since both use ASN.1 to demark content portions). (The way in which an implementation treats separate entities within its own environment is not constrained by any standard.)

ODL, however, like other properly-designed SGML applications, also offers the technique of including character content in the same entity as the markup. This technique can be employed for those content portions in which none of the characters conflict with the concrete syntax chosen by the implementation. ISO 8879 contains an extensive discussion of this subject, along with two "multicode" concrete syntax definitions intended for use in multiple character set environments.

E.2   Fundamentals

E.2.1   Basic objects and their content

In ODA, a basic object can have the attribute "content portions" and cannot have the attribute "subordinates". In the ODL representation of ODA, all content portions occur in "data elements".

A data element is an element that is declared either to be empty, or to contain only data. An application should normally define at least one data element type for each content architecture class in use.

> NOTE – Definitions for "generic" data elements are given in E.10.2.1 and E.10.2.2. Specialized data element types could also be defined. For example, see the element declaration for **"logo"** in F.1.2.2.

In the layout structure, a data element is itself a basic object. In the logical structure, however, a data element is the sole subelement of a basic object. Attributes of a basic object that are dependent on the content architecture (such as presentation attributes) are represented as attributes of its data element.

A content model for a basic logical object normally offers a choice of all possible data element types (and therefore content architecture classes), as in:

> **<!ELEMENT blo O O (cf | cfp | cp | gfp | rf | rfp) >**

An instance of a basic logical object, however, can contain only a single data element.

E.2.2   ODL names

ODL names are used as generic identifiers of element types, in attribute values, and in the construction of certain data content notation and attribute names.

> NOTE – In some SGML concrete syntaxes, including the reference concrete syntax, case distinctions in names other than entity names are not significant. The names defined in ODL are unique even in such syntaxes.

E.2.2.1   Logical object type names

The ODL names for the logical object types are the short form human-readable names defined in A.2.5 of ITU-T Rec. T.412 | ISO/IEC 8613-2:

DLOR	-- *document logical root*
CLO	-- *composite logical object*
BLO	-- *basic logical object*

E.2.2.2   Layout object type names

The ODL names for the layout object types are the short form human-readable names defined in A.2.5 of ITU-T Rec. T.412 | ISO/IEC 8613-2, with two exceptions noted below:

DLAR	-- *document layout root*
PAGES	-- *page set (Exception: equivalent to PAGE_SET)*
PAGE	-- *page (composite)*
BPAGE	-- *page (basic) (Exception: see Note.)*
FRAME	-- *frame*
BLOCK	-- *block*

> NOTE – For syntactic convenience, an object of the type 'composite or basic page' is given the ODL object type name **PAGE** when it is a composite page and the ODL object type name **BPAGE** when it is a basic page. This technique allows composite and basic pages to be represented in ODL as distinct element types, with the appropriate attributes defined for each.

E.2.2.3   Content architecture class names

ODL names for content architecture classes are defined in the Specifications in ISO/IEC 8613 where the SGML representations of the content-related attributes are defined.

Those defined at present are:

cf	-- *character formatted content architecture*
cfp	-- *character formatted processable content architecture*
cp	-- *character processable content architecture*
gfp	-- *geometric graphics formatted processable content architecture*
rf	-- *raster graphics formatted content architecture*
rfp	-- *raster graphics formatted processable content architecture*

E.2.2.4   Data element type names

The ODL names for data element types are the same as the ODL names for the content architecture classes. All are permitted in the logical structure; those with "formatted" in the name are also permitted in the layout structure.

E.2.2.5   Data content notation names

In ODL, content architectures are represented by an SGML construct called a "data content notation". It is necessary to declare each notation that is used in a document (see E.10).

An ODL notation name is constructed by prefixing **"ODA"** to the ODL content architecture class name. To allow for future changes in ODA, the prefix **"ODA"** in notation names and parameter entity names is reserved.

E.2.2.6   SGML generic identifier (GI)

An element's generic identifier is normally derived from the ODA user-visible name for an object class description.

>   NOTE – The word "derived" is used to denote that normal SGML rules must be followed. This means that the generic identifier must be a unique name for its class and it must conform to the concrete syntax. If the user-visible name satisfies these requirements then it can be used as specified. If not, then some implementation-specific derivation must be accomplished to satisfy the SGML rules. This will not affect processing since the GIs carry no semantics and are used merely to establish linkage. If the user-visible name must be preserved for other purposes, an SGML comment and convention can be used. For example **"<!-- *UVN: user-visible name* -->"** where **"UVN: "** is the convention.

Where no object class description exists (for example, when there is no generic part), the ODL name for the object type (see E.2.2.1 and E.2.2.2) is used instead.

A generic identifier cannot be the same as an ODL object type name, unless the element is of that object type and no other elements are of that object type. In the layout structure, such elements must have a fixed object type attribute whose value is the object type name.

A generic identifier cannot be the same as an ODL data element type (content architecture class) name, unless the element is a data element of that type (see E.2.2.4).

A generic identifier cannot be **"null"**, in any combination of uppercase and/or lowercase characters.

E.2.2.7   SGML unique identifier (ID)

In ODL, an object identifier is represented symbolically by an SGML construct called a "unique identifier", or "ID". A symbol is assigned only if there is a need to reference the object.

>   NOTE – This technique is practical because the attribute "subordinates", which conceptually requires a reference to every object, is implied in ODL by the position of the subordinate objects.

An ODL unique identifier cannot be **"null"**, in any combination of uppercase and/or lowercase characters.

E.2.2.8   Default value list attribute names

Each default value list that can be specified for an element is represented in ODL by an individual attribute. The attribute names are constructed by prefixing the letters **"dv"** to the ODL name for an object type or content architecture class.

The presently recognized default value list attribute names are:

dvclo	-- *composite logical object*
dvblo	-- *basic logical object*
dvpages	-- *page set*
dvpage	-- *page (composite)*
dvbpage	-- *page (basic)*
dvframe	-- *frame*
dvblock	-- *block*
dvcf	-- *character formatted content architecture*
dvcfp	-- *character formatted processable content architecture*
dvcp	-- *character processable content architecture*
dvgfp	-- *geometric graphics formatted processable content architecture*
dvrf	-- *raster graphics formatted content architecture*
dvrfp	-- *raster graphics formatted processable content architecture*

E.2.3   Content

>   NOTE – In most SGML applications, the content information (data) of an element with character content normally occurs between its start- and end-tags. The data is either recognized as such because the element's content is declared to be data and has no markup within it, or because the element has mixed content and the parser distinguishes the data from any nested subelement tags or other markup. In ODL, however, even though nested subelements cannot occur, character content is normally declared to be **#PCDATA** in order to permit entity references and markup declarations. Geometric and raster graphics content are **NDATA** entities.

The content information attribute of a content portion is represented in ODL as the content of a data element. The other attributes of a content portion are represented as attributes of the data element.

For character content architectures, the data can occur either in the normal content, or in one or more data entities that are referenced from the ODL attribute **"content"** that is defined for the data element. The normal content is declared to be **#PCDATA**, so that it can contain references to other content portions, and so that the start-tag can be minimized when only one data element type can occur.

Geometric and untiled raster graphics content, which cannot be parsed for markup, is always stored in separate data entities. The entities are referenced by the ODL attribute **"content"** on the data element's start-tag. Tiled raster graphics content contains one or more data elements, one for each tile, but no tile data. Therefore, tiled raster graphics content can be parsed for markup. Tile content, which cannot be parsed for markup, is always stored in separate data entities. The entities are referenced by the ODL attribute **"content"** on the tile data element's start-tag.

Generic content is discussed in E.4.2.2.

E.2.4   Linking the logical and layout structures

In order to permit the automatic generation of a specific layout structure, the generic logical structure must be linked to the styles and other attributes that govern the layout process. In ODL, this is accomplished by an explicit **LINKTYPE** declaration. The declaration encompasses other SGML declarations (just as a document type declaration does). In particular, it contains one or more **LINK** set declarations, which associate the ODA logical object class, layout style, presentation style, and layout object class.

> NOTE – The following example illustrates two link sets, named **"#INITIAL"** and **"set1"**. Consider the last line, which is the link rule for **"logobj3"** in the link set named **"set1"**. It has four parameters: the logical object class, the layout style directives, the layout object class, and the presentation style attributes. In SGML, they are called the source element type, link attribute specification, result element type, and result attribute specification, respectively.

<!LINK	**#INITIAL**		
	dlor		**dlar**
	logobj1	**[sep="450 00 00"]**	**#IMPLIED**
	logobj2	**#USELINK set1 [newlay=page]**	**#IMPLIED**
	logobj3	**[blkalign=c]**	**layobj2 >**
<!LINK	**set1**		
	logobj3	**[blkalign=l]**	**layobj2 [trans=o] >**

> The optional **USELINK** parameter in line 4 identifies the link set that will be current for the specified logical object class, except when overridden by the link set associated with a subordinate object. A link set called **"#INITIAL"** must always be present, and is the current link set at the start of the document. In the example, **#INITIAL** is the current link set for all of the logical structure, except within **logobj2** and its subordinates, where **set1** is current.

E.2.5   Attributes

Attribute definitions must be associated with the corresponding element definition (object class description) for all potential attributes of an object. Except, however, that an attribute need not be defined if the attribute is not specified for the object class concerned, or for any object derived from it.

If the attribute definition's default value is to be overridden for a particular specific object, the attribute must be specified in the start-tag of the element, or in a link or result attribute specification list. Parameter-wise defaulting is achieved by defining entities for each parameter.

> NOTE – Conventions for such defaulting can be established by a document application profile.

E.3   Representation of attribute values

The representations of the ODA attributes are presented in the form of SGML public text. In this form they can be referenced from a document rather than included within it.

The semantics of the attribute values are specified in ITU-T Rec. T.412 | ISO/IEC 8613-2. The representation of attribute values is as specified in ITU-T Rec. T.412 | ISO/IEC 8613-2, except where a different representation is specified in the public text or elsewhere in this annex.

The default values specified in the public text are those defined in ITU-T Rec. T.412 | ISO/IEC 8613-2. If a different default value is wanted for an element (such as a non-standard default value specified in the document profile or in an object class description), the public text should not be referenced; instead, the definitions should be duplicated with the required changes made in the default values.

Attribute values are sequences of one or more parameters, separated by SGML separator characters. The description of the attribute in ITU-T Rec. T.412 | ISO/IEC 8613-2 determines the number of parameters, and whether any can be omitted. An omitted parameter is represented by a keyword consisting of two zeros: **00**.

A parameter is either constructed, or is one of a number of primitive types: string, keyword, integer, expression, or identifier. String and expression parameters are delimited, and can contain separator characters. Other parameters are not delimited and cannot contain separator characters.

> NOTE – Most attribute values consist of a single parameter.

E.3.1   Constructed parameters

In ITU-T Rec. T.412 | ISO/IEC 8613-2, a parameter is a constructed parameter if one or more of its permissible values is a group of two or more sub-parameters. The description of the attribute in ITU-T Rec. T.412 | ISO/IEC 8613-2 determines the number of sub-parameters, and whether any can be omitted. If more than one sub-parameter is present, they are separated from one another by commas. Successive commas denote an omitted sub-parameter, but they are required only if a succeeding sub-parameter is present.

> NOTE – For an example of a constructed parameter, see the attribute **"position"** in the public text.

E.3.2   String parameters

A string parameter could contain characters not permitted in an SGML name token, and it is therefore delimited by SGML **LIT** or **LITA** delimiters.

E.3.3   Keyword parameters

Possible keyword values are defined in ITU-T Rec. T.412 | ISO/IEC 8613-2 for some parameters, and by this annex for others.

Lowercase letters in keyword parameters are treated as though they were uppercase.

For certain parameters whose permissible values constitute a set of keywords, fixed numeric values, or both keywords and fixed numeric values, the value is represented by choosing from a set of substitute keywords. These parameters are documented in comments in the public text, in the form:

> **parameter name: keyword keyword ...**

with the keywords appearing in the same order as the permissible values that they represent appear within ITU-T Rec. T.412 | ISO/IEC 8613-2. For attributes that have but one parameter, the attribute name is the parameter name.

> NOTE – For example:
> -- *side of sheet: R V U* --

means that in the "side of sheet" parameter of the attribute "medium type", a value of **"r"** represents 'recto', a value of **"v"** represents 'verso', and so on.

E.3.4   Integer parameters

An integer is represented by a sequence of digits. If preceded by a hyphen, it represents a negative integer.

Parameters whose permissible values constitute an enumerated set of quantities of degrees or SMUs are represented by the integer quantities alone, without the word "degrees" or "SMU".

E.3.5   Real parameters

A real number is represented as defined for the value notation of ASN.1 in CCITT Rec. X.208 | ISO/IEC 8824.

> NOTE – A value without a fractional part will be regarded as an integer.

E.3.6   Expression parameters

Expression parameters use the ODA human-readable expression notation defined in normative Annex A of ITU-T Rec. T.412 | ISO/IEC 8613-2. Its application to ODL is specified in this subclause.

> NOTE – Construction expressions are discussed in E.4.2.1.

E.3.6.1   Delimiters

The hexadecimal form of a string literal is represented in functional notation to minimize potential conflicts with SGML delimiters:

> **H(hexadecimal string)**

NOTE – When the reference delimiter set is used, attribute values containing ODA string expressions should normally be delimited with **LITA** delimiters, as the ODA expression notation uses **LIT** delimiters for string literals.

E.3.6.2   Names and identifiers

An object class identifier is represented by the ODL generic identifier (element type).

An object type is represented by its ODL name.

NOTE 1 – ODL naming rules prevent conflicts between GIs and ODL object type names.

An object identifier is represented by an SGML unique identifier.

NOTE 2 – An element must have an **ID** attribute specified on its start-tag in order for there to be an object identifier to reference.

A binding name is represented by an SGML name derived from it.

NOTE 3 – It cannot be confused with any other ODL name because it can only occur as the second argument of a binding reference.

E.3.6.3   String literals

A string literal in an expression parameter may be contained in a general entity that is referenced from the expression by means of an ODL function called **"E"**:

E(general entity name)

NOTE – The **E** function may be used for string literals that contain non-SGML characters.

E.3.7   Parameters requiring names or identifiers

Object types, object class identifiers, and object identifiers, are represented as specified in E.3.6.2.

When a unique identifier occurs in a context in which a generic identifier or object type name could also occur, the unique identifier is represented as the argument to an **"ID"** function to distinguish it.

Example – **ID(myid)**

A null name or identifier is represented by the keyword **"null"**.

E.3.8   Special SGML constructs

Some ODA attributes are represented by SGML constructs other than the SGML attribute syntax. Their representation is described for each such attribute individually.

E.3.9   Alternative descriptions

Alternative descriptions are represented in ODL using marked sections. For this purpose, a primary subtree and each of its alternative subtrees are each enclosed in a marked section and are placed in the document in the order of decreasing preference. A document is interchanged with the primary subtree marked **INCLUDED** and the alternative subtrees marked **IGNORED**. This may be changed by the recipient if required. To facilitate ignoring primary descriptions and including alternative descriptions, conventional use of entities allows for avoiding having to change the external keywords. The names of the entities to choose an appropriate alternative can be derived from the attribute **"switch"** in the "alternative feature set" in the document profile.

E.3.10   Protected parts

E.3.10.1 Enciphered parts

In ODL a single enciphered part is always contained in an entity that contains only that enciphered part. An enciphered part identifier is represented in ODL by the entity name of the entity containing the enciphered part.

The particular kind of enciphered part description is determined unambiguously by the content in which the enciphered part ID occurs.

NOTE – A user may wish to identify the particular kind of enciphered part description by placing a comment in the entity declarations for the enciphered part entity.

E.3.10.2 Sealed parts

A sealed document body part has its normal (not enciphered) structure. A sealed document body part is identified by the presence of the attribute "sealed" (see E.4.5.6.2) on the element.

A sealed document profile is represented by a list of the names of the document profile attributes that are sealed. This list is the value of the ODL attribute **"sealatts"** of a **sealedpr** element.

NOTES

1   Preservation of constituents and content seals is possible only if a normalized encoding of the sealed constituents and content is produced. This makes authentication encoding dependent, i.e. the encoding of sealed constituents and content can not be modified in any manner without invalidating seals and losing authentication. This further means that the original encoding of a sealed constituent or content portion, either ASN.1 binary or ODL character encoding, must be preserved.

2   As it is customary for SGML applications to preserve the SGML forms, in this case the ODL form, of the encoded document, no additional rules for preserving the authenticity of sealed document parts are required. The authenticity is preserved by transmitting the original SGML form of the sealed document parts to the intended recipient(s). It is possible to facilitate the processing of sealed documents by placing the sealed document parts in entities.

E.4   Shared attributes

E.4.1   Identification attributes

E.4.1.1   Object type

E.4.1.1.1 Logical objects

The attribute "object type" is not specified for logical objects, as it is implied by the content model:

a)   if the content is declared to be a data element or a choice of data elements, the object is a basic logical object;

b)   if the element is the document element, the object is the document logical root;

c)   in all other cases, the object is a composite logical object.

E.4.1.1.2 Layout objects

The attribute "object type" is declared as follows:

objtype NAME #FIXED ODLname

where **"ODLname"** is the ODL name for the object type, as described above.

NOTE – The attribute "object type" must be defined for a layout object class even if the object type name is used as its generic identifier.

E.4.1.2   Object identifier

The attribute "object identifier" is represented symbolically by an SGML "unique identifier" attribute, as follows:

id ID #IMPLIED

It need be defined and specified only for elements that are actually referenced.

E.4.1.3   Object class identifier

The attribute "object class identifier" is the "element type" in an element definition.

E.4.2   Construction attributes

E.4.2.1   Generator for subordinates

The semantics of the attribute "generator for subordinates" are represented in ODL by the SGML content model syntax.

NOTE – The content model syntax differs only in notational constructs from the human-readable construction expression in Annex A of ITU-T Rec. T.412 | ISO/IEC 8613-2.

An ambiguous generator for subordinates must be made unambiguous by means of "intermediate elements", as described in ISO 8879. An intermediate element has no semantic effect. It is distinguished from other elements in the following manner:

1)   In the logical DTD, the following attribute is defined for it:

ignore NAME #FIXED ignore

2)   In the layout DTD, the attribute "object type" is defined for it as follows:

objtype NAME #FIXED ignore

E.4.2.2   Content generator and generic content information

E.4.2.2.1 Layout structure

In the layout structure, the attribute "content generator" is declared for data elements as follows:

> **congen CDATA #FIXED 'string expression'**

and the attribute "content information" is declared as:

> **coninfo ENTITIES #FIXED 'entity names'**

E.4.2.2.2 Link attribute definition

In a link attribute definition, the attribute "content generator" is declared as follows:

> **congen CDATA 'string expression'**

The attribute "content information" is not declared as such; instead, its value is assigned to the attribute **"congen"**, and the ODL attribute **"gentype"** is set to **"CONINFO"** to indicate this. The latter attribute is declared as:

> **gentype NAME "CONGEN"**

If the attribute "content generator" is specified at the same time, it is specified as the value of the ODL attribute "ignored content generator":

> **icongen CDATA #IMPLIED**

The ODL attribute **"congen"** can have semantic significance only when the instance of the source data element has no data and the ODL attribute **"content"** is not specified. In such cases, the attribute will cause generation of content data for the result data element when the value of the ODL attribute "use content generator" is **"YES"** (the default). To prevent content generation, the attribute "use content generator" should be specified as **"NO"**.

The link attribute "use content generator" is declared as:

> **ucongen CDATA yes**

E.4.3   Relationship attributes

E.4.3.1   Object class

The attribute "object class" is an element's generic identifier, which is specified on its tags.

E.4.3.2   Subordinates

The attribute "subordinates" is not specified as such. Elements that occur between the start- and end-tags of another element are that element's subordinates (sub-elements). The order of appearance of the sub-elements defines the sequential order among them.

E.4.3.3   Content portions

All content portions occur in data elements. Non-character content is always stored in data entities and is referenced by specifying the entity names as the value of a content attribute of the data element, as follows:

> **content ENTITIES #REQUIRED**

Non-character data elements are declared to have **EMPTY** normal content.

For character content, the content portions normally occur between the start- and end-tags of the data element. They are declared to be **#PCDATA** and can contain references to character data entities. The declaration

> **content ENTITIES #CONREF**

allows the data for a given element to occur in separate entities, depending upon whether a value is specified for the attribute. When a content attribute value is specified, the normal content of that instance of the element must be empty.

Generic content is discussed in E.4.2.2.

E.4.3.4   Resource

This attribute is declared as:

> **resource CDATA #FIXED "table key"**

E.4.3.5 Presentation style

See E.8.1.

E.4.4 Content architecture class attributes: content architecture class

The attribute "content architecture class" is declared for data elements as:

conarch NAME #FIXED ODLarch

where **"ODLarch"** is the ODL name for a content architecture class (see E.2.2.3).

NOTE – When an ODA/ODL document is converted to ODIF, the attribute "content architecture class" would be coded in ODIF using either the object identifier representation or the integer representation, as appropriate.

E.4.5 Miscellaneous attributes

E.4.5.1 User-readable comments

These are represented by SGML comment declarations.

E.4.5.2 Application comments

An application comment is the text of an entity whose name is specified as the value of an attribute that is declared as follows:

appcmnt ENTITY #IMPLIED

E.4.5.3 User-visible name

This attribute is represented either by the element's generic identifier or unique identifier, or by an associated comment.

NOTE – If the user-visible name contains other than SGML parsable character data, it must appear in a comment.

E.4.5.4 Bindings

Each binding is represented as an SGML attribute that is declared as:

binding-name CDATA #IMPLIED

or

binding-name CDATA 'binding-value'

and specified in the form

binding-name = 'binding-value'

where

"binding-name" is an SGML name derived from the ODA binding name; and
"binding-value" is an expression, represented as specified in E.3.6.

E.4.5.5 Default value lists

Default value lists are represented by one or more of the following attributes:

ODLdvnm ENTITY #IMPLIED

where **"ODLdvnm"** is replaced by an ODL name for a default value list (see E.2.2.8).

The value of each attribute is the name of a data entity whose value conforms to the syntax of an attribute specification list.

Default value list attributes can be defined for elements in the source and result document types, and as link attributes. A default value list that is a link attribute must contain a link attribute specification list.

NOTE – In ODL, the attributes "presentation style" and "layout style" are represented as attribute specification lists in link rules (see E.7 and E.8). Default value lists for these attributes consist of similarly-formed attribute specification lists.

E.4.5.6 Security attributes

Security attributes are represented by one or more of the following ODL attributes.

E.4.5.6.1 Enciphered

> enciph CDATA #IMPLIED -- *enciphered* --
>   -- *encsub:*   *(ENCNONE | ENCALL | ENCPART) ENCNONE* --
>   -- *encsubid:*   *sequence of IDREF #IMPLIED* --
>   -- *encppid:*   *ENTITY #IMPLIED* --

E.4.5.6.2 Sealed

> sealed CDATA #IMPLIED -- *sealed* --
>   -- *sealstat:*   *(SEALED | UNSEALED) UNSEALED* --
>   -- *sealids:*   *sequence of IDREF #IMPLIED* --

E.5   Layout attributes

E.5.1   Property, formatting, and imaging attributes

This subclause defines a public entity set whose entities contain standard definitions of ODA layout attributes. When the public entity is referenced in a document type definition, the individual entities can be referenced as needed in attribute definition lists.

```
<! -- Copyright (C) International Organization for Standardization, International Electrotechnical Commission
      1994
      Permission to copy in any form is granted for use with conforming SGML systems and applications as defined in
      ISO 8879, provided this notice is included in all copies.
-->
<! -- Public entity set. Typical invocation:
<!ENTITY     % layatt PUBLIC "ISO/IEC 8613-5:1994//ENTITIES
                      ODA Layout Attributes//EN">
             %layatt;
-->
                    <! -- Property Attributes -->
<!ENTITY     % ODApos      -- position --
             "pos         CDATA '0 0'"
               -- fixed or variable: implied by number of parameters --
               -- horizontal position: integer --
               -- vertical position: integer --
               -- offset: (integer,integer,integer,integer) --
               -- separation: (integer,integer,integer) --
               -- alignment: R C L --
               -- fill order: N R -->
<!ENTITY     % ODAdim      -- dimensions --
             "dim         CDATA #IMPLIED"
               -- fixed dimension: integer --
               -- variable page height: (V,integer) --
               -- rule a: (A,(integer,integer)) --
               -- rule b: (B,(integer,integer)) --
               -- maximum size: M -->
<!ENTITY     % ODAbor      -- border --
             "border      CDATA #IMPLIED
             bordspid     IDREF #IMPLIED"
               -- border sub-structured as --
                 -- null: N --
               -- border line width: integer --
               -- border line type: S DA DO DD DDD I --
               -- border free space width: integer --
               -- border line colour: choice of --
                   -- implementation defined: IMPLDEF --
                   -- colour expression: a colour expression as defined in E.5.3.1 --
               -- bordspid: a reference to a colour space id -->

                 <! -- Formatting Attributes -->
```

```
<!ENTITY      % ODAbal      -- balance --
                 "balance   CDATA null">
<!ENTITY      % ODApath     -- layout path: 0 90 180 270 --
                 "laypath   NUMBER 270">
<!ENTITY      % ODAsrce     -- logical source --
                 "logsrce   NAME #IMPLIED">
<!ENTITY      % ODAperm     -- permitted category names --
                 "permcat   NAMES null" >
<!ENTITY      % ODAlct      -- layout stream categories --
                 "laycat    NAMES null" >
<!ENTITY      % ODAlsct     -- layout stream sub-categories --
                 "layscat   NAMES null" >


              <! -- Imaging Attributes -->
<!ENTITY      % ODAiord     -- imaging order --
                 "imagord   IDREFS #IMPLIED" >
<!ENTITY      % ODAtran     -- transparency: T O --
                 "trans     NAME t" >
<!ENTITY      % ODAcol      -- colour: COLMEDIA COLOURED  --
                 "colour    NAME colmedia" >
<!ENTITY      % ODAppos     -- page position: integer integer --
                 "ppos      NUMBERS #IMPLIED">
<!ENTITY      % ODAmed      -- medium type --
                 "medium    NMTOKENS '9920,14030 u unspec'
                 medspid    IDREF #IMPLIED"
                    -- medium sub-structured as --
                       -- nominal page size: (integer,integer) --
                       -- side of sheet: R V U --
                       -- colour of medium: choice of --
                          -- unspecified colour: UNSPEC --
                          -- specified colour: a colour expression as defined in E.5.3.1 --
                    -- medspid: a reference to a colour space id  -->


              <! -- Colour Attributes -->
<!ENTITY      % ODAclay     -- colour of layout object --
                 "clay      CDATA #IMPLIED
                 clayspid   IDREF #IMPLIED"
                    -- clay: a colour expression as defined in E.5.3.1 --
                    -- clayspid: a reference to a colour space id  -->
<!ENTITY      % ODAobct     -- object colour table --
                 "obct      CDATA #IMPLIED
                 obctspid   IDREF #IMPLIED"
                    -- obct: a colour table as defined in E.5.3.2 --
                    -- obctspid: a reference to a colour space id  -->
<!ENTITY      % ODAbcol     -- content background colour --
                 "bcol      CDATA #IMPLIED
                 bcolspid   IDREF #IMPLIED"
                    -- bcol sub-structured as --
                       -- choice of --
                          -- transparent: TRANSPAR --
                          -- colour expression: a colour expression as defined in E.5.3.1 --
                    -- bcolspid: a reference to a colour space id  -->
<!ENTITY      % ODAfcol     -- content foreground colour --
                 "fcol      CDATA #IMPLIED
                 fcolspid   IDREF #IMPLIED"
                    -- fcol sub-structured as --
                       -- choice of --
                          -- transparent: TRANSPAR --
                          -- implementation defined: IMPLDEF --
                          -- colour expression: a colour expression as defined in E.5.3.1 --
                    -- fcolspid: a reference to a colour space id  -->
```

```
<!ENTITY      % ODAcnct      -- content colour table --
              "cnct         CDATA #IMPLIED
              cnctspid      IDREF #IMPLIED"
```
        -- cnct: a colour table as defined in E.5.3.2 --

        -- cnctspid: a reference to a colour space id -->

E.5.2 Presentation attributes

The presentation attributes are described in the Specifications in ISO/IEC 8613 in which content architectures are specified.

Presentation attributes can be defined and specified only for data elements. The syntactically allowable set of attributes depends on the data element type (that is, on the data element's content architecture class).

Layout presentation attributes are applicable to formatted (**F**) and formatted processable (**FP**) architecture classes. They are known in ODL as "format attributes" and are specified as attributes of a data element in the layout structure.

    NOTE – Although they are also syntactically valid in a result attribute specification, they are ignored by the layout process.

Logical presentation attributes are applicable to unformatted processable (**P**) and **FP** architecture classes. They are known in ODL as "format directives" and are specified as link attributes.

ODA also defines "shared" attributes that apply to all three categories of architecture class. They are known in ODL as "format attribute-directives" and are specified for the various content architecture classes as follows:

    a)   **P**: result attribute specifications in link rules (that is, in presentation styles).

    b)   **F**: like format attributes (that is, in data element start-tags in the layout structure).

    c)   **FP**: both of the above, with the link rules being recognized for the layout process and the layout structure start-tags for the imaging process.

When a result attribute must be specified and the layout object class is either a composite layout object or is unspecified, a subordinate link set must be defined. The result attributes are then specified in an entry in the subordinate link set in which the source element type is specified as **#IMPLIED**, and the result element type is the generic identifier of the basic layout object whose content architecture class is that to which the result attributes apply.

    NOTE – See how **"para"** is handled in the example in F.1.2.3.

E.5.3 Colour

E.5.3.1 Colour expressions

A colour expression is represented as **CDATA** and is substructured as follows:

    -- colour expression: sequence of --

      -- colour access mode: DIR IND --

      -- choice of --

        -- direct colour expression: sequence of --

          -- colour specification: (real, real, real [, real]) --

          -- colour tolerance: choice of --

            -- specified tolerance: sequence of --

              -- tolerance value: real --

              -- tolerance space: LUV LAB --

            -- unspecified tolerance: INFINITE --

        -- indexed colour expression: integer --

For each element and attribute which has a colour expression as (part of) its value, a referencing attribute must be declared with a value type of **IDREF**. This referencing attribute may be used to identify a colour space for direct colour expressions. In the case of a direct colour expression, any value specified for the referencing attribute must refer to the unique object identifier of a colour space in the profile. When no value for the referencing attribute is present, the default colour space is used. In the case of an indexed colour expression, the colour space is found through the applicable colour table.

E.5.3.2 Colour tables

A colour table is represented as **CDATA** and is substructured as follows:

> *-- colour table: sequence of --*
>   *-- colour table entries: sequence of triples of the form --*
>   *-- index: integer --*
>   *-- colour coordinates: (real, real, real [, real]) --*
>   *-- colour tolerance: choice of --*
>   *-- unspecified tolerance: INFINITE --*
>   *-- specified tolerance: sequence of --*
>   *-- tolerance value: real --*
>   *-- tolerance space: LUV LAB --*

For each element and attribute which has a colour table as its value, a referencing attribute must be declared with a value type of **IDREF**. This referencing attribute may be used to identify a colour space for the colour table. Any value specified for the referencing attribute must refer to the unique object identifier of a colour space in the profile. When no value for the referencing attribute is present, the default colour space is used.

E.6 Logical attributes

E.6.1 Protection

The attribute "protection" is defined as:

> **protect NAME unprot** *-- protection: PROTECT UNPROT --*

E.6.2 Layout style

See E.7.1.

E.7 Layout style attributes

Layout directive attributes are specified as "link attributes" in the link rule for the logical object class.

E.7.1 Layout style identifier

Layout styles are represented by entities, conventions for which can be defined in a document application profile. The entity name is the layout style identifier. (See the example in F.1.2.3.)

E.7.2 Layout object class

The layout object class attribute is represented by specifying the generic identifier of the layout object class as the result element type in the link rule. If the logical object does not have a known layout object class, the keyword **"#IMPLIED"** should be specified in the link rule instead.

E.7.3 Layout category

A layout category name is represented by an SGML name. In situations where another type of name could also occur, a layout category name is represented as the argument to a **"CAT"** function, to distinguish it.

> *Example –* **CAT(mycat)**

A layout category name cannot be **"null"**, in any combination of uppercase and/or lowercase characters.

E.7.4 Logical stream category

A logical stream category name is represented by an SGML name. In situations where another type of name could also occur, a logical stream category name is represented as the argument to an **"LCAT"** function, to distinguish it.

> *Example –* **LCAT(mylcat)**

A logical stream category name cannot be **"null"**, in any combination of uppercase and/or lowercase characters.

E.7.5 Logical stream sub-category

A logical stream sub-category name is represented by an SGML name. In situations where another type of name could also occur, a logical stream sub-category name is represented as the argument to an **"LSCAT"** function, to distinguish it.

Example – **LSCAT(mylscat)**

A logical stream sub-category name cannot be **"null"**, in any combination of uppercase and/or lowercase characters.

E.7.6 Other layout directive attributes

This subclause includes public entities containing attribute definitions for the layout directives. The entities can be referenced directly within an attribute definition list declaration.

E.7.6.1 Layout directives for basic and composite logical objects

```
<! -- Copyright (C) International Organization for Standardization, International Electrotechnical Commission
      1994
      Permission to copy in any form is granted for use with conforming SGML systems and applications as defined in
      ISO 8879, provided this notice is included in all copies.
-->
<! -- Public text entity. Typical invocation:
<!ENTITY        % ldir-bc PUBLIC "ISO/IEC 8613-5:1994//TEXT
                        Layout Directives: Basic and Composite//EN">
<!ATTLIST        clo %ldir-bc; >
-->
                -- layout object class is not an attribute: see E.7.2 --
                -- 'object type page' is represented by 'PAGE' --
                indiv      CDATA          null -- indivisibility  --
                logcat     NAME           null -- logical stream category  --
                logscat    NAME           null -- logical stream sub-category  --
                frange     CDATA          null -- floatability range  --
                newlay     CDATA          null -- new layout object  --
                samelay    CDATA          null -- same layout object  --
                synchr     CDATA          null -- synchronization  --
                appcmnt    ENTITY         #IMPLIED -- application comments  --
                derived    NMTOKENS #IMPLIED -- source of derived style  --
```

E.7.6.2 Layout directives for basic logical objects

```
<! -- Copyright (C) International Organization for Standardization, International Electrotechnical Commission
      1994
      Permission to copy in any form is granted for use with conforming SGML systems and applications as defined in
      ISO 8879, provided this notice is included in all copies.
-->
<! -- Public text entity. Typical invocation:
<!ENTITY        % ldir-b PUBLIC "ISO/IEC 8613-5:1994//TEXT
                        Layout Directives: Basic//EN">
<!ATTLIST blo %ldir-b; %ldir-bc;>
-->
                blkalign   NAME           r          -- block alignment: R L C N --
                concat     NAME           n          -- concatenation: C N --
                fillord    NAME           n          -- fill order: N R --
                category   NAME           null       -- layout category --
                offset     NUMBERS        "0 0 0 0" -- offset: four integers  --
                sep        NUMBERS        "0 0 0"   -- separation: three integers  --
```

E.7.7 Derived layout styles

If a style is derived from another, it shall include the following attribute:

derived = 'link-set-name link-rule-number'

where **"link-set-name"** is the name of a link set, and **"link-rule-number"** is a number expressing the position of a link rule within the link set that contains the source of the derived style. (Numbering of link rules within a link set begins at one.)

The attribute "derived from" shall be declared in the same way as other style attributes, as follows:

> **derived NMTOKENS #IMPLIED** -- *source of derived style* --

E.8 Presentation style attributes

E.8.1 Presentation style identifier

Presentation styles are represented by entities, conventions for which can be defined in a document application profile. The entity name is the presentation style identifier. (See the example in F.1.2.3.)

E.8.2 Other presentation style attributes

Layout attributes that have been defined for a result element are syntactically valid as result attributes in link rules. However, only the attributes "border", "transparency", and "colour" (see E.5.1) are semantically valid during the layout process, and only when they are attributes of blocks.

E.8.3 Derived presentation styles

Derived presentation styles are represented in the same way as derived layout styles (see E.7.7).

E.9 Content portion attributes

E.9.1 Identification attributes: content identifier

Content (data) is normally identified by the fact that it occurs between the start-tag and end-tag of a data element. The document type specification on the start-tag or tags that introduce the data indicates whether it is part of the logical or layout structure, or both.

When data is stored in a separate entity, its name serves as the content identifier.

E.9.2 Common coding attributes: type of coding

The attribute "type of coding" is defined as an attribute of a data content notation, in the form:

> **codetype NAME (default)**

where the default and permissible values are defined in the Specifications in ISO/IEC 8613 that deal with content architectures, or in document application profiles.

The attribute is specified on the entity declarations of entities containing content portions that conform to the notation.

E.9.3 Content information attributes

E.9.3.1 Content information

The content information attribute is discussed in E.2.3.

E.9.3.2 Alternative representation

The attribute "alternative representation" is defined as follows for data elements whose content portions could have alternative representations:

> **altreps ENTITIES #IMPLIED**

The value of this attribute is a list of names of data entities that contain the alternative representations of the corresponding content portions.

If there is no alternative representation for one or more content portions, the reserved entity name **"NONE"** should occupy its position in the list. An entity used for an alternative representation cannot be named **"NONE"**.

E.9.4 Coding attributes

The representation of these attributes is defined in the Specifications in ISO/IEC 8613 that deal with content architectures.

The attributes are defined as attributes of a data content notation, and are specified on the entity declarations of entities containing content portions that conform to the notation.

E.10 Data content notations

E.10.1 Notation declarations for content architectures

ODL notation declarations for data content notations representing the content architecture classes are included in the parts of ISO/IEC 8613 where the content-related attributes are defined.

E.10.2 Content-related public text

The following SGML public text contains notation declarations for existing ODA content architecture classes, element and attribute list declarations for the corresponding data element types, entity declarations for presentation attribute definitions, and entity declarations for lists of data element GIs and default value lists derived from them.

E.10.2.1 Logical structure

```
<! -- Copyright (C) International Organization for Standardization, International Electrotechnical Commission
     1994
     Permission to copy in any form is granted for use with conforming SGML systems and applications as defined in
     ISO 8879, provided this notice is included in all copies.
-->
<! -- Public text entity. Typical invocation:
<!ENTITY      % ODAdlg PUBLIC "ISO/IEC 8613-5:1994//TEXT
                        ODA Data Elements: Logical//EN">
              %ODAdlg;
-->
<!ENTITY      % r-p-c PUBLIC "ISO/IEC 8613-7:1993//TEXT
                    Raster Coding Attributes//EN">


<!NOTATION   ODAcf PUBLIC "ISO/IEC 8613-6:1993//NOTATION
              Character formatted content architecture//EN">
<!NOTATION   ODAcfp PUBLIC "ISO/IEC 8613-6:1993//NOTATION
              Character formatted processable content architecture//EN">
<!NOTATION   ODAcp PUBLIC "ISO/IEC 8613-6:1993//NOTATION
              Character processable content architecture//EN">
<!NOTATION   ODAgfp PUBLIC "ISO/IEC 8613-8:1993//NOTATION
              Geometric graphics formatted processable content architecture//EN">
<!NOTATION   ODArf PUBLIC "ISO/IEC 8613-7:1993//NOTATION
              Raster graphics formatted content architecture//EN">
<!NOTATION   ODArfp PUBLIC "ISO/IEC 8613-7:1993//NOTATION
              Raster graphics formatted processable content architecture//EN" >
<!ATTLIST    NOTATION (ODArfp) %r-p-c; >

<!ELEMENT   cf    o o      (#PCDATA)            -- formatted character content -- >
<!ATTLIST   cf    conarch   NAME      #FIXED cf  -- content architecture class --
                  id        ID        #IMPLIED   -- object identifier --
                  content   ENTITIES  #CONREF    -- content portions --
                  altreps   ENTITIES  #IMPLIED   -- alternative representations --
                  appcmnt   ENTITY    #IMPLIED   -- application comments --
                  enciph    CDATA     #IMPLIED   -- enciphered --
                  sealed    CDATA     #IMPLIED   -- sealed -- >
<!ELEMENT   cfp   o o      (#PCDATA)            -- fp character content -->
```

<!ATTLIST	cfp	conarch	NAME	#FIXED cfp	-- *content architecture class* --
		id	ID	#IMPLIED	-- *object identifier* --
		content	ENTITIES	#CONREF	-- *content portions* --
		altreps	ENTITIES	#IMPLIED	-- *alternative representations* --
		appcmnt	ENTITY	#IMPLIED	-- *application comments* --
		enciph	CDATA	#IMPLIED	-- *enciphered* --
		sealed	CDATA	#IMPLIED	-- *sealed* -- >
<!ELEMENT	cp	o o	(#PCDATA)		-- *processable character content* -- >
<!ATTLIST	cp	conarch	NAME	#FIXED cp	-- *content architecture class* --
		id	ID	#IMPLIED	-- *object identifier* --
		content	ENTITIES	#CONREF	-- *content portions* --
		altreps	ENTITIES	#IMPLIED	-- *alternative representations* --
		appcmnt	ENTITY	#IMPLIED	-- *application comments* --
		enciph	CDATA	#IMPLIED	-- *enciphered* --
		sealed	CDATA	#IMPLIED	-- *sealed* -- >
<!ELEMENT	gfp	– o	EMPTY		-- *fp geometric content* -->
<!ATTLIST	gfp	conarch	NAME	#FIXED gfp	-- *content architecture class* --
		id	ID	#IMPLIED	-- *object identifier* --
		content	ENTITIES	#REQUIRED	-- *content portions* --
		altreps	ENTITIES	#IMPLIED	-- *alternative representations* --
		appcmnt	ENTITY	#IMPLIED	-- *application comments* --
		enciph	CDATA	#IMPLIED	-- *enciphered* --
		sealed	CDATA	#IMPLIED	-- *sealed* -- >
<!ELEMENT	rf	– o	EMPTY		-- *formatted raster content* -- >
<!ATTLIST	rf	conarch	NAME	#FIXED rf	-- *content architecture class* --
		id	ID	#IMPLIED	-- *object identifier* --
		content	ENTITIES	#REQUIRED	-- *content portions* --
		altreps	ENTITIES	#IMPLIED	-- *alternative representations* --
		appcmnt	ENTITY	#IMPLIED	-- *application comments* --
		enciph	CDATA	#IMPLIED	-- *enciphered* --
		sealed	CDATA	#IMPLIED	-- *sealed* -- >
<!ELEMENT	rfp	– o	(tile*)		-- *fp raster content* -->
<!ATTLIST	rfp	conarch	NAME	#FIXED rfp	-- *content architecture class* --
		id	ID	#IMPLIED	-- *object identifier* --
		content	ENTITIES	#CONREF	-- *content portions* --
		altreps	ENTITIES	#IMPLIED	-- *alternative representations* --
		appcmnt	ENTITY	#IMPLIED	-- *application comments* --
		enciph	CDATA	#IMPLIED	-- *enciphered* --
		sealed	CDATA	#IMPLIED	-- *sealed* -- >
<!ELEMENT	tile	– o	EMPTY		-- *fp raster content tile* -- >
<!ATTLIST	tile	content	ENTITIES	#REQUIRED	-- *tile content portions* -- >
<!ENTITY	% ODAdelg "cf | cp | cfp | gfp | rf | rfp"				-- *logical data element types* -- >

E.10.2.2 Layout structure

```
<! --    Copyright (C) International Organization for Standardization, International Electrotechnical Commission
         1994
         Permission to copy in any form is granted for use with conforming SGML systems and applications as defined in ISO
         8879, provided this notice is included in all copies.
-->
<! -- Public text entity. Typical invocation:
<!ENTITY    % ODAdly PUBLIC "ISO/IEC 8613-5:1994//TEXT
                       ODA Data Elements: Layout//EN">
         %ODAdly;
-->
<!ENTITY    % c-p-a      PUBLIC "ISO/IEC 8613-6:1993//TEXT
                       Character Presentation Format Attributes//EN">
```

```
<!ENTITY      % c-p-ad      PUBLIC "ISO/IEC 8613-6:1993//TEXT
                            Character Presentation Format Attribute-Directives//EN" >
<!ENTITY      % g-p-ad      PUBLIC "ISO/IEC 8613-8:1993//TEXT
                            Geometric Presentation Format Attribute-Directives//EN" >
<!ENTITY      % r-p-a       PUBLIC "ISO/IEC 8613-7:1993//TEXT
                            Raster Presentation Format Attributes//EN">
<!ENTITY      % r-p-ad      PUBLIC "ISO/IEC 8613-7:1993//TEXT
                            Raster Presentation Format Attribute-Directives//EN" >
<!ENTITY      % r-p-c       PUBLIC "ISO/IEC 8613-7:1993//TEXT
                            Raster Coding Attributes//EN">

<!NOTATION  ODAcf      PUBLIC "ISO/IEC 8613-6:1993//NOTATION
                       Character formatted content architecture//EN">
<!NOTATION  ODAcfp     PUBLIC "ISO/IEC 8613-6:1993//NOTATION
                       Character formatted processable content architecture//EN">
<!NOTATION  ODAgfp     PUBLIC "ISO/IEC 8613-8:1993//NOTATION
                       Geometric graphics formatted processable content architecture//EN" >
<!NOTATION  ODArf      PUBLIC "ISO/IEC 8613-7:1993//NOTATION
                       Raster graphics formatted content architecture//EN">
<!NOTATION  ODArfp     PUBLIC "ISO/IEC 8613-7:1993//NOTATION
                       Raster graphics formatted processable content architecture//EN" >
<!ATTLIST   NOTATION (ODArf | ODArfp) %r-p-c; >

<!ENTITY      % layatt      PUBLIC "ISO/IEC 8613-5:1993//ENTITIES
                                    ODA Layout Attributes//EN">
              %layatt;

<!ELEMENT  cf     o o     (#PCDATA)                    -- formatted character content -- >
<!ATTLIST  cf              %c-p-a;    %c-p-ad;          -- presentation attributes --
              conarch      NAME       #FIXED cf         -- content architecture class --
              content      ENTITIES   #CONREF           -- content portions --
              altreps      ENTITIES   #IMPLIED          -- alternative representations --
              id           ID         #IMPLIED          -- object identifier --
              objtype      NAME       #FIXED block      -- object type --
              appcmnt      ENTITY     #IMPLIED          -- application comments --
   %ODApos;   %ODAdim; %ODAbor;   %ODAtran;   %ODAcol; -- layout attributes --
   %ODAclay;  %ODAobct; %ODAbcol;  %ODAfcol;   %ODAcnct; -- colour attributes --
              %ODAlct;                                   -- layout stream categories --
              %ODAlsct;                                  -- layout stream sub-categories --
              enciph       CDATA      #IMPLIED          -- enciphered --
              sealed       CDATA      #IMPLIED          -- sealed -- >
<!ELEMENT  cfp    o o     (#PCDATA)                    -- fp character content -->
<!ATTLIST  cfp             %c-p-a;    %c-p-ad;          -- presentation attributes --
              conarch      NAME       #FIXED cfp        -- content architecture class --
              content      ENTITIES   #CONREF           -- content portions --
              altreps      ENTITIES   #IMPLIED          -- alternative representations --
              id           ID         #IMPLIED          -- object identifier --
              objtype      NAME       #FIXED block      -- object type --
              appcmnt      ENTITY     #IMPLIED          -- application comments --
   %ODApos;   %ODAdim; %ODAbor;   %ODAtran;   %ODAcol; -- layout attributes --
   %ODAclay; %ODAobct;  %ODAbcol;  %ODAfcol;   %ODAcnct; -- colour attributes --
              %ODAlct;                                   -- layout stream categories --
              %ODAlsct;                                  -- layout stream sub-categories --
              enciph       CDATA      #IMPLIED          -- enciphered --
              sealed       CDATA      #IMPLIED          -- sealed -- >
<!ELEMENT  gfp    – o     EMPTY                         -- fp geometric content -- >
```

```
<!ATTLIST    gfp            %g-p-ad;                    -- presentation attributes --
                   conarch    NAME      #FIXED gfp    -- content architecture class --
                   content    ENTITIES  #REQUIRED     -- content portions --
                   altreps    ENTITIES  #IMPLIED      -- alternative representations --
                   id         ID        #IMPLIED      -- object identifier --
                   objtype    NAME      #FIXED block  -- object type --
                   appcmnt    ENTITY    #IMPLIED      -- application comments --
      %ODApos;    %ODAdim; %ODAbor;   %ODAtran;     %ODAcol; -- layout attributes --
      %ODAclay; %ODAobct;  %ODAbcol;  %ODAfcol;     %ODAcnct; -- colour attributes --
                   %ODAlct;                           -- layout stream categories --
                   %ODAlsct;                          -- layout stream sub-categories --
                   enciph     CDATA     #IMPLIED      -- enciphered --
                   sealed     CDATA     #IMPLIED      -- sealed -- >
<!ELEMENT    rf      – o     EMPTY                     -- formatted raster content -- >
<!ATTLIST    rf             %r-p-a;    %r-p-ad;       -- presentation attributes --
                   conarch    NAME      #FIXED rf     -- content architecture class --
                   content    ENTITIES  #REQUIRED     -- content portions --
                   altreps    ENTITIES  #IMPLIED      -- alternative representations --
                   id         ID        #IMPLIED      -- object identifier --
                   objtype    NAME      #FIXED block  -- object type --
                   appcmnt    ENTITY    #IMPLIED      -- application comments --
      %ODApos;    %ODAdim; %ODAbor;   %ODAtran;     %ODAcol; -- layout attributes --
      %ODAclay;   %ODAobct; %ODAbcol; %ODAfcol;     %ODAcnct; -- colour attributes --
                   %ODAlct;                           -- layout stream categories --
                   %ODAlsct;                          -- layout stream sub-categories --
                   enciph     CDATA     #IMPLIED      -- enciphered --
                   sealed     CDATA     #IMPLIED      -- sealed -- >
<!ELEMENT    rfp     – o     (tile*)                   -- fp raster content -- >
<!ATTLIST    rfp            %r-p-a;    %r-p-ad;       -- presentation attributes --
                   conarch    NAME      #FIXED rfp    -- content architecture class --
                   content    ENTITIES  #CONREF       -- content portions --
                   altreps    ENTITIES  #IMPLIED      -- alternative representations --
                   id         ID        #IMPLIED      -- object identifier --
                   objtype    NAME      #FIXED block  -- object type --
                   appcmnt    ENTITY    #IMPLIED      -- application comments --
      %ODApos;    %ODAdim; %ODAbor;   %ODAtran;     %ODAcol; -- layout attributes --
      %ODAclay;   %ODAobct; %ODAbcol; %ODAfcol;     %ODAcnct; -- colour attributes --
                   %ODAlct;                           -- layout stream categories --
                   %ODAlsct;                          -- layout stream sub-categories --
                   enciph     CDATA     #IMPLIED      -- enciphered --
                   sealed     CDATA     #IMPLIED      -- sealed -- >
<!ELEMENT    tile    – o     EMPTY                     -- fp raster content tile -- >
<!ATTLIST    tile    content  ENTITIES  #REQUIRED     -- tile content portions -- >

<!ENTITY   % ODAdely "cf | cfp | gfp | rf | rfp" -- layout data element types -- >
<!ENTITY   % ODAdvly -- default value lists for layout data element types --
           "dvcf  ENTITY #IMPLIED dvcfp ENTITY #IMPLIED
            dvgfp ENTITY #IMPLIED dvrf  ENTITY #IMPLIED dvrfp ENTITY #IMPLIED">
```

E.11   SGML document type declaration and document type definition

E.11.1   Generic and specific parts present

For both logical and layout structures, when either or both generic parts, and at least one corresponding specific part, are present, the usual form of SGML document type declaration is used. The document type name is the generic identifier of the element that represents the root object.

If there are objects in the specific part that have no object class attribute, the generic part is said to be "partially present". The ODL object type names of such objects are used as their generic identifiers, and a standard element definition for the object type (see E.11.3) is included in the document type definition.

E.11.2   Generic parts only

When either or both generic parts are present, and no specific parts, a document type declaration in the following form is used:

```
<!DOCTYPE generic [
  <!ELEMENT generic    o  o (logical?, layout?)>
  <!ELEMENT logical    –  o CDATA>
  <!ELEMENT layout     –  o CDATA>
]>
```

E.11.3   Specific parts only

When either or both specific parts are present, and no generic parts, the ODL names for the object types are used as the generic identifiers. One or both of the two following public document type definitions are used, corresponding to the specific parts that are present.

E.11.3.1 Document type definition for specific logical structure

```
<! --   Copyright (C) International Organization for Standardization, International Electrotechnical Commission
        1994
        Permission to copy in any form is granted for use with conforming SGML systems and applications as defined in
        ISO 8879, provided this notice is included in all copies.
-->
<! -- Public document type definition. Typical invocation:
<! DOCTYPE dlor PUBLIC "ISO/IEC 8613-5:1994//DTD ODA Logical Structure//EN" [
]>
-->
<!ENTITY         % ODAdlg PUBLIC "ISO/IEC 8613-5:1993//TEXT
                          ODA Data Elements: Logical//EN">
                 %ODAdlg;
```

`<!ELEMENT`	`dlor`	`o o (clo | blo)+`	`-- document logical root -->`	
`<!ELEMENT`	`clo`	`– – (clo | blo)+`	`-- composite logical object -->`	
`<!ELEMENT`	`blo`	`– o (%ODAdelg;)`	`-- basic logical object -->`	

```
<!ATTLIST   (dlor | clo)
                    dvclo    ENTITY      #IMPLIED     -- default value list --
                    dvblo    ENTITY      #IMPLIED     -- default value list --
                    id       ID          #IMPLIED     -- object identifier --
                    protect  NAME        unprot       -- protection: PROTECT UNPROT --
                    enciph   CDATA       #IMPLIED     -- enciphered --
                    sealed   CDATA       #IMPLIED     -- sealed -->
<!ATTLIST   blo     id       ID          #IMPLIED     -- object identifier --
                    protect  NAME        unprot       -- protection: PROTECT UNPROT --
                    enciph   CDATA       #IMPLIED     -- enciphered --
                    sealed   CDATA       #IMPLIED     -- sealed -->
```

E.11.3.2 Document type definition for specific layout structure

```
<! --   Copyright (C) International Organization for Standardization, International Electrotechnical Commission
        1994
        Permission to copy in any form is granted for use with conforming SGML systems and applications as defined in
        ISO 8879, provided this notice is included in all copies.
-->
<! -- Public document type definition. Typical invocation:
<!DOCTYPE dlar PUBLIC "ISO/IEC 8613-5:1994//DTD ODA Layout Structure//EN" [
]>
-->
```

```
<!ENTITY     % ODAdly PUBLIC "ISO/IEC 8613-5:1993//TEXT
                        ODA Data Elements: Layout//EN">
             %ODAdly;

<!ELEMENT    dlar   o o  ((pages | page)+ | bpage+)          -- document layout root -->
<!ELEMENT    pages  – –  (pages | page)+                     -- page set -->
<!ELEMENT    page   – o  (frame+ | (%ODAdely;)+)             -- page (composite) -->
<!ELEMENT    frame  – –  (frame+ | (%ODAdely;)+)             -- frame -->
<!ELEMENT    bpage  – o  (%ODAdely;)                         -- basic page -->
<!ENTITY     % layatt PUBLIC "ISO/IEC 8613-5:1993//ENTITIES
                        ODA Layout Attributes//EN">
             %layatt;

<!ATTLIST    dlar   objtype    NAME      #FIXED dlar         -- object type --
                    id         ID        #IMPLIED            -- object identifier --
                    dvpages    ENTITY    #IMPLIED            -- default value list --
                    dvpage     ENTITY    #IMPLIED            -- default value list --
                    dvframe    ENTITY    #IMPLIED            -- default value list --
                    dvblock    ENTITY    #IMPLIED            -- default value list --
                    dvbpage    ENTITY    #IMPLIED            -- default value list --
                    %ODAdvly;                                -- data elements: default value lists --
                    %ODAbal;                                 -- balance --
                    enciph     CDATA     #IMPLIED            -- enciphered --
                    sealed     CDATA     #IMPLIED            -- sealed -->
<!ATTLIST    pages  objtype    NAME      #FIXED pages        -- object type --
                    id         ID        #IMPLIED            -- object identifier --
                    dvpages    ENTITY    #IMPLIED            -- default value list --
                    dvpage     ENTITY    #IMPLIED            -- default value list --
                    dvframe    ENTITY    #IMPLIED            -- default value list --
                    dvblock    ENTITY    #IMPLIED            -- default value list --
                    %ODAdvly;                                -- data elements: default value lists --
                    %ODAbal;                                 -- balance --
                    %ODAlct;                                 -- layout stream categories --
                    %ODAlsct;                                -- layout stream sub-categories --
                    enciph     CDATA     #IMPLIED            -- enciphered --
                    sealed     CDATA     #IMPLIED            -- sealed -->
<!ATTLIST    bpage  objtype    NAME      #FIXED bpage        -- object type --
                    id         ID        #IMPLIED            -- object identifier --
                    %ODAdvly;                                -- data elements: default value lists --
                    %ODAdim;                                 -- dimensions --
                    %ODAlct;                                 -- layout stream categories --
                    %ODAlsct;                                -- layout stream sub-categories --
                    %ODAtran;                                -- transparency --
                    %ODAcol;                                 -- colour --
                    %ODAppos;                                -- page position --
                    %ODAmed;                                 -- medium type --
                    %ODAbcol;                                -- content background colour --
                    %ODAfcol;                                -- content foreground colour --
                    %ODAcnct;                                -- content colour table --
                    enciph     CDATA     #IMPLIED            -- enciphered --
                    sealed     CDATA     #IMPLIED            -- sealed -->
<!ATTLIST    page   objtype    NAME      #FIXED page         -- object type --
                    id         ID        #IMPLIED            -- object identifier --
                    dvframe    ENTITY    #IMPLIED            -- default value list --
                    dvblock    ENTITY    #IMPLIED            -- default value list --
                    %ODAdvly;                                -- data elements: default value lists --
                    %ODAdim;                                 -- dimensions --
                    %ODAbal;                                 -- balance --
```

		%ODAlct;			-- *layout stream categories* --
		%ODAlsct;			-- *layout stream sub-categories* --
		%ODAiord;			-- *imaging order* --
		%ODAtran;			-- *transparency* --
		%ODAcol;			-- *colour* --
		%ODAppos;			-- *page position* --
		%ODAmed;			-- *medium type* --
		%ODAclay;			-- *colour of layout object* --
		%ODAobct;			-- *object colour table* --
		enciph	CDATA	#IMPLIED	-- *enciphered* --
		sealed	CDATA	#IMPLIED	-- *sealed* -->
<!ATTLIST	frame	objtype	NAME	#FIXED frame	-- *object type* --
		id	ID	#IMPLIED	-- *object identifier* --
		dvframe	ENTITY	#IMPLIED	-- *default value list* --
		dvblock	ENTITY	#IMPLIED	-- *default value list* --
		permimp	NAME	y	-- *implicit layout category: Y N* --
		%ODAdvly;			-- *data elements: default value lists* --
		%ODApos;			-- *position* --
		%ODAdim;			-- *dimensions* --
		%ODAbor;			-- *border* --
		%ODAbal;			-- *balance* --
		%ODApath;			-- *layout path* --
		%ODAsrce;			-- *logical source* --
		%ODAperm;			-- *permitted category names* --
		%ODAlct;			-- *layout stream categories* --
		%ODAlsct;			-- *layout stream sub-categories* --
		%ODAiord;			-- *imaging order* --
		%ODAtran;			-- *transparency* --
		%ODAcol;			-- *colour* --
		%ODAclay;			-- *colour of layout object* --
		%ODAobct;			-- *object colour table* --
		enciph	CDATA	#IMPLIED	-- *enciphered* --
		sealed	CDATA	#IMPLIED	-- *sealed* -->

E.11.3.3 Link process definition

<! -- Public link process definition. Typical invocation:
<!LINKTYPE ODAlay PUBLIC "ISO/IEC 8613-5:1994//LPD
                ODA Layout Process//EN" [
]>
-->
 <! -- *Define ODA layout directives as SGML link attributes* -->
<!ENTITY   % ldir-bc PUBLIC "ISO/IEC 8613-5:1993//TEXT
                Layout Directives: Basic and Composite//EN">
<!ATTLIST   clo %ldir-bc; >
<!ENTITY   % ldir-b PUBLIC "ISO/IEC 8613-5:1993//TEXT
                Layout Directives: Basic//EN">
<!ATTLIST   blo %ldir-b; %ldir-bc; >

 <! -- *Define logical presentation attributes as SGML link attributes* -- >
<!ENTITY   % c-p-d PUBLIC "ISO/IEC 8613-6:1993//TEXT
                Character Presentation Format Directives//EN">
 <!ATTLIST   (cfp | cp) %c-p-d; >
<!ENTITY   % g-p-d PUBLIC "ISO/IEC 8613-8:1993//TEXT
                Geometric Presentation Format Directives//EN">

```
<!ATTLIST      gfp %g-p-d; >
<!ENTITY       % r-p-d PUBLIC "ISO/IEC 8613-7:1993//TEXT
                      Raster Presentation Format Directives//EN">
<!ATTLIST      rfp %r-p-d; >

 <! -- Define ODA default link set -->

<!LINK         #INITIAL
               dlor     dlar
               gfp      gfp
               rf       rf
               rfp      rfp>
```

E.12   Identification of ODA/ODL documents

The application information parameter (**"APPINFO"**) of the SGML declaration must begin with **"ODL"** in order to identify the document as one that conforms to the ODA architecture and is represented in ODL.

E.13   Use of SDIF with ODA/ODL documents

SDIF shall be used for OSI interchange of ODA documents that are represented in ODL. SDIF should be used for non-OSI interchange of such documents.

When SDIF is used, the ODA document profile shall be represented by the first document descriptor in the SDIF data stream, which shall be given the SDIF name **"DOCPROF"**.

E.14   Document profile

This clause specifies a standardized SGML representation of the ODA document profile defined in ITU-T Rec. T.414 | ISO/IEC 8613-4.

      NOTE – Some of the elements in the ODA profile are redundant when ODL is used. They are included in order to simplify conversion between ODL and ODIF; the redundant elements can be omitted if desired.

E.14.1   Representation of profile values

E.14.1.1 Attribute list

The profile contains a number of lists of attribute names and their default values. The names are ODL names that are defined for the attributes in other Specifications in ISO/IEC 8613. Such lists are designated in the profile document type definition (DTD) by a reference to the parameter entity **"m.attl"**.

      NOTE – The purpose of the attribute lists is to establish default values that differ from those stated in ITU-T Rec. T.410 Series | ISO/IEC 8613.

An attribute list can optionally have an associated scope, such as an object type or content architecture class. The content of an attribute list is in the same form as an SGML attribute specification list.

Multiple non-basic values that may apply to one attribute (and thus cannot be described within one attribute specification list) are represented by using multiple **scope**/**dvlist** pairs with the same scope.

E.14.1.2 Document reference

The element in the ODL profile representation that contains a reference to a document is termed a "document reference" (**docref**). The element containing the string by which the document described by the profile is referenced is called the "document reference identifier" (**docrefid**). The content of both element types can be an SGML formal public identifier, an ASN.1 object identifier, or a character string.

E.14.1.3 ASN.1 object identifier

A value of an attribute, or content of an element, that is identified in ITU-T Rec. T.414 | ISO/IEC 8613-4 as an "object identifier" is an ASN.1 object identifier. Such a value is represented in the clear text notation that is used for such identifiers in ISO standards. For example, the object identifier for the SDIF abstract syntax would be represented as:

      [iso standard 9069 abstract-syntax (1)]

E.14.1.4 Escape sequences

A string parameter that is an escape sequence formulated in accordance with ISO 2022 is represented in the form used for the "public text designating sequence" defined in ISO 8879.

> NOTE – This is the clear text form commonly used in ISO standards.

E.14.2 Public text

<! -- Copyright (C) International Organization for Standardization, International Electrotechnical Commission 1994

Permission to copy in any form is granted for use with conforming SGML systems and applications as defined in ISO 8879, provided this notice is included in all copies.

-->
<! -- Public document type definition. Typical invocation:
<!DOCTYPE profile PUBLIC "ISO/IEC 8613-4:1994//DTD ODA Profile//EN" [
]>
-->

<!ENTITY	**% m.attl**	**"(scope?, dvlist)+"** -- *model: attribute list* -->
<!ENTITY	**% m.date**	**"(date, time?)"** -- *model: date and time* -->

<!ELEMENT **profile** *-- ((constit?, docchar, docmanag?, docsecat?) | sealedpr)>*

        <! -- *Document Constituents* -->

<!ELEMENT **constit** *-- presence of document constituents --*
    – o (extdoc?, resdoc?, resource*) >

<!ATTLIST **constit** **present** *-- structural and style constituents present --*
        NAMES #IMPLIED
    -- one to ten keywords, where each generic must
    be partial or normal, but not both:
    (GENLAY | PGENLAY | FGENLAY)? & (GENLOG | PGENLOG | FGENLOG)? &
    SPECLAY? & SPECLOG? & PRESSTYL? & LAYSTYL? &
    SEALPROF? & ENCPROF? & PRENCDP? & POENCDP? -->

<!ELEMENT **extdoc** *-- external document class --*
    – o (#PCDATA)>

<!ELEMENT **resdoc** *-- resource document --*
    – o (docref)>

<!ELEMENT **resource** *-- external identifier of resource --*
    -- (format determined by document application profile) --
    – o (#PCDATA)>

<!ATTLIST **resource** **key** *-- resource identifier: character string --*
        CDATA #REQUIRED >

        <! -- *Document Characteristics* -->

<!ELEMENT **docchar** *-- document characteristics --*
    – o (approf?, appdefs?, ODAver, altfeat?, nonbasic?, fontlist?, colchar?, colspacs?) >

<!ATTLIST **docchar** **objects** *-- number of objects per page --*
        NUMBER #IMPLIED
    BMUscale *-- unit scaling --*
        NUMBERS "1 1"
    docarch *-- document architecture class --*
        (F | FP | P) #REQUIRED
    conarchs *-- content architecture classes: ODL names --*
        CDATA #REQUIRED
    ifclass *-- interchange format class --*
        (A | B | SDIF) #REQUIRED >

<!ELEMENT **approf** *-- doc application profile: "GRP4FAX" or object-ID --*
    – o (#PCDATA)>

<!ELEMENT **appdefs** *-- doc application profile defaults: ODA and content --*
    – o %m.attl;>

<!ELEMENT **ODAver** *-- ODA version: Standard or Recommendation name --*
    – o (#PCDATA)>

<!ATTLIST **ODAver** **ODAdate** *-- ODA version date --*
        CDATA #REQUIRED >

```
<!ELEMENT   altfeat      – o (featset*)>
<!ELEMENT   featset      – o (feat*)>
<!ATTLIST   featset      switch      NAME #IMPLIED>
<!ELEMENT   feat         – o (#PCDATA)>
<!ELEMENT   nonbasic     -- non-basic document characteristics --
                         – o (nbchar?, nbatts?)>
<!ELEMENT   nbchar       -- non-basic character sets --
                         – o (profchar?, commchar?, altchar?) >
<!ELEMENT   profchar     – o (#PCDATA) -- profile character sets -->
<!ELEMENT   commchar     – o (#PCDATA) -- comments character sets -->
<!ELEMENT   altchar      – o (#PCDATA) -- alternative character sets -->
<!ELEMENT   nbatts       -- non-basic attribute values --
                         – o %m.attl; -- mode: "ODA" or ODL con arch name -- >
<!ELEMENT   fontlist     – o (fontrole, fontref)+ -- fonts list -- >
<!ELEMENT   fontrole     o o (#PCDATA) -- font identifier: role name -- >
<!ELEMENT   fontref      o o (fattset)+>
<!ATTLIST   fontref      uvn         -- user visible name --
                                     CDATA #IMPLIED>
<!-- user readable comments are represented as comment declarations -->
<!ELEMENT   fattset      o o (#PCDATA)      -- font attributes set: SGML name --
                                            -- of entity conforming to ISO/IEC 9541-2 --
                                            -- font attributes set -->
<!ATTLIST   fattset      prec        -- precedence number --
                                     NUMBER 0>
<!ELEMENT   colchar      -- colour characteristics --
                         – o (colspacp*)>
<!ATTLIST   colchar      colmodes    (DIRECT | INDEXED | BOTH) #IMPLIED
                                     -- colour modes --
                         mintoler    NMTOKENS #IMPLIED -- minimum tolerance --
                                     -- tolerance value: real --
                                     -- tolerance space: LUV LAB --
                         maxctlen    NUMBER #IMPLIED
                                     -- maximum number of colour table entries --
                         maxclut     NUMBER #IMPLIED
                                     -- maximum number of look-up table entries --
                         maxgrid     NUMBER #IMPLIED
                                     -- maximum cmy(k) grid size -->
<!ELEMENT   colspacp     -- colour space presence indicator --
                         – o EMPTY>
<!ATTLIST   colspacp     csptype     (RGB | CMYK | CMY | LUV | LAB) #REQUIRED
                                     -- colour space type --
                         caltype     (MATR | LUT | MATRLUT) #IMPLIED
                                     -- calibration type -->
<!ELEMENT   colspacs     -- colour spaces list --
                         -- (colspace*)>
<!ELEMENT   colspace     -- colour space --
                         – o (colscal?, calidata?)>
<!ATTLIST   colspace     id          ID #REQUIRED -- colour space id --
                         csptype     (RGB | CMYK | LUV | LAB) #REQUIRED
                                     -- colour space type --
                         cspname     CDATA #IMPLIED -- colour space name -->
<!ELEMENT   colscal      -- colour data scaling --
                         – o (scaloff, scaloff, scaloff, scaloff?)>
<!ELEMENT   scaloff      -- scale and offset --
                         – o EMPTY>
<!ATTLIST   scaloff      scale       NMTOKEN #REQUIRED      -- scale: real --
                         offset      NMTOKEN #REQUIRED      -- offset: real -->
<!ELEMENT   calidata     -- calibration data --
                         – o (rgbcal | cmykcal | ciecal)>
```

```
<!ELEMENT   ciecal        -- cieluv and cielab calibration --
                          – o (refwhite)>
<!ELEMENT   refwhite      -- reference white --
                          – o EMPTY>
<!ATTLIST   refwhite      x            NMTOKEN #REQUIRED -- x-value: real --
                          y            NMTOKEN #REQUIRED -- y-value: real --
                          z            NMTOKEN #REQUIRED -- z-value: real -->
<!ELEMENT   rgbcal        -- rgb calibration --
                          – o (refwhite, matrix1?, lut?, matrix2?)>
<!ELEMENT   matrix1       -- calibration matrix --
                          – o EMPTY>
<!ATTLIST   matrix1       entries      NMTOKENS #REQUIRED
                                       -- exactly nine reals or integers -->
<!ELEMENT   matrix2       -- calibration matrix --
                          – o EMPTY>
<!ATTLIST   matrix2       entries      NMTOKENS #REQUIRED
                                       -- exactly nine reals or integers -->
```

<!-- the entries of both "matrix1" and "matrix2" are in row major order, i.e. with the elements appearing in the data stream in the order a_{11}, a_{12}, a_{13}, a_{21}, a_{22}, a_{23}, a_{31}, a_{32}, a_{33} -->

```
<!ELEMENT   lut           -- colour look-up table --
                          – o (ctent*)>
<!ATTLIST   lut           number       NUMBER #IMPLIED -- number of entries --
                          m            NUMBER #IMPLIED
                          n            NUMBER #IMPLIED>
<!ELEMENT   ctent         -- colour table entry --
                          – o EMPTY>
<!ATTLIST   ctent         index        NUMBER #REQUIRED
                          r            NMTOKEN #REQUIRED -- r-value: real --
                          g            NMTOKEN #REQUIRED -- g-value: real --
                          b            NMTOKEN #REQUIRED -- b-value: real -->
<!ELEMENT   cmykcal       -- cmyk calibration --
                          – o (refwhite, comment?, gridspec+)>
<!ELEMENT   comment       -- comment --
                          – o (#PCDATA)>
<!ELEMENT   gridspec      -- grid specification --
                          – o (gridloc, gridval)>
<!ELEMENT   gridloc       -- grid location --
                          – o EMPTY>
<!ATTLIST   gridloc       c            NMTOKEN #REQUIRED -- c-value: real --
                          m            NMTOKEN #REQUIRED -- m-value: real --
                          y            NMTOKEN #REQUIRED -- y-value: real --
                          k            NMTOKEN #IMPLIED -- k-value: real -->
<!ELEMENT   gridval       -- grid value --
                          – o EMPTY>
<!ATTLIST   gridval       x            NMTOKEN #REQUIRED -- x-value: real --
                          y            NMTOKEN #REQUIRED -- y-value: real --
                          z            NMTOKEN #REQUIRED -- z-value: real -->

            <! -- Document Management Attributes -->
<!ELEMENT   docmanag      -- document management attributes --
                          - o (descript?, dates?, origin?, userinfo?,
                             extrefs?, localref?, contents?, security?)>
<!ELEMENT   descript      -- document description --
                          – o (title?, subject?, docrefid?,
                             doctype?, abstract?, keyword*)>
<!ELEMENT   (title, subject, doctype, abstract, keyword)
                          – o (#PCDATA)>
<!ELEMENT   dates         -- dates and times --
                          – o (document?, creation?, filing?, expiry?,
                             start?, purge?, release?, revhist?)>
```

```
<!ELEMENT    (document, creation, filing, expiry, start, purge, release, sealtime)
                         – o %m.date; >
<!ELEMENT    revhist    -- revision history --
                         – o (revision+) >
<!ELEMENT    revision   o o (revdate?, revisor*, docref?, revcmnts?)>
<!ATTLIST    revision    version     CDATA #IMPLIED >
<!ELEMENT    revdate    – o %m.date; >
<!ELEMENT    revisor    – o (person*, position?, organ?)>
<!ELEMENT    position   – o (#PCDATA)>
<!ELEMENT    revcmnts   – o (#PCDATA) -- user comments -->
<!ELEMENT    origin     -- originators --
                         – o (organ*, preparer*, owner*, author*)>
<!ELEMENT    organ      – o (#PCDATA) -- organization -->
<!ELEMENT    preparer   – o (person?, organ?)>
<!ELEMENT    owner      – o (person?, organ?)>
<!ELEMENT    author     – o (person?, organ?)>
<!ELEMENT    userinfo   -- other user information --
                         – o (copyrite*, status?, usercode*,
                            distlist*, addition?)>
<!ELEMENT    copyrite   – o (copyinfo*, copydate*) -- copyright information -->
<!ELEMENT    (copyinfo | copydate)
                         – o (#PCDATA)
<!ELEMENT    status     – o (#PCDATA)>
<!ELEMENT    usercode   – o (ucentry+) -- user-specific codes -->
<!ELEMENT    ucentry    – o (#PCDATA) -- entry of user-specific codes -- >
<!ELEMENT    distlist   – o (person?, organ?) -- distribution list -->
<!ELEMENT    addition   -- ANY -- additional information -->
<!ELEMENT    extrefs    -- external references --
                         – o (other*, previous*)>
<!ELEMENT    other      – o (docref+) -- other documents -->
<!ELEMENT    previous   – o (docref+) -- superseded documents -->
<!ELEMENT    localref   -- local filing reference --
                         – o (filename?, location?, comments?)+>
<!ELEMENT    filename   – o (#PCDATA)>
<!ELEMENT    location   – o (#PCDATA)>
<!ELEMENT    comments   – o (#PCDATA)>
<!ELEMENT    contents   – o (language*) -- content attributes -->
<!ATTLIST    contents   size        NUMBER #IMPLIED -- document size --
                         pages       NUMBER #IMPLIED -- number of pages -->
<!ELEMENT    language   – o (#PCDATA)>
<!ELEMENT    security   – o (authoriz?, class?, access*)>
<!ELEMENT    authoriz   – o (person | organ) -- authorization -->
<!ELEMENT    class      – o (#PCDATA) -- security classification -->
<!ELEMENT    access     – o (#PCDATA) -- access rights -->

             <! -- Document Security Attributes -->
<!ELEMENT    docsecat   – o (sealenc?, seclabel?, sealprof?, prsealdp?,
                            posealdp?, encprof?, prencdp?, poencdp?)>
<!ELEMENT    sealenc    -- sealed information encoding: ASN.1 object id --
                         – o (#PCDATA)>
<!ELEMENT    seclabel   -- ODA security label --
                         – o EMPTY>
<!ATTLIST    seclabel   info        CDATA #CONREF -- ODA label info --
                         data        ENTITY #IMPLIED -- ODA label data -->
<!ELEMENT    sealdata   -- seal data --
                         – o (sealmetd?, sealinf?, seal)>
<!ELEMENT    sealmetd   -- seal method --
                         – o (fpmeth?, fpkinf?, sealmeth?, sealkinf?)>
<!ELEMENT    sealinf    -- seal information --
                         – o (fprint?, sealtime?, person?, seallocn?)>
```

```
<!ELEMENT    seal          -- seal --
                           – o EMPTY>
<!ATTLIST    seal          nseal        NDATA #CONREF>
<!ELEMENT    (fpmeth, sealmeth, encmeth) -- method information --
                           – o (#PCDATA)>
<!ATTLIST    (fpmeth, sealmeth, encmeth)
                           id CDATA #IMPLIED -- ASN.1 id --
                           methinfo     CDATA #CONREF -- descriptive method info -->
<!ELEMENT    (fpkinf, sealkinf, enckinf) -- key information --
                           – o ((fpmeth | sealmeth | encmeth)?, addlinf?)>
<!ELEMENT    fprint        -- fingerprint --
                           – o EMPTY>
<!ATTLIST    fprint        nprint       NDATA #CONREF>
<!ELEMENT    addlinf       -- additional information --
                           – o EMPTY>
<!ATTLIST    addlinf       descinfo     CDATA #CONREF -- description information --
                           octstrin     ENTITY #IMPLIED -- octet string -->
<!ELEMENT    seallocn      -- seal creator --
                           – o EMPTY>
<!ATTLIST    seallocn      creatid      CDATA #IMPLIED -- unique location --
                           creatinf     CDATA #CONREF -- descriptive location -->
<!ELEMENT    sealprof      -- sealed profiles --
                           – o (sealprfl+)>
<!ELEMENT    sealprfl      -- one sealed profile --
                           – o (person*, sealdata)>
<!ATTLIST    sealprfl      ppartid      IDREF #REQUIRED>
<!ELEMENT    (prsealdp, posealdp) -- sealed document parts --
                           – o (sealid, sealcons, person*, sealdata)+>
<!ELEMENT    sealid        -- seal id --
                           – o (#PCDATA)>
<!ELEMENT    sealcons      -- sealed constituents --
                           – o IDREFS #IMPLIED>
<!ELEMENT    (encprof, prencdp, poencdp) -- enciphered profile and document parts --
                           – o (privrinf*)>
<!ATTLIST    (encprof, prencdp, poencdp)
                           pdpartid     ENTITIES #IMPLIED>
<!ELEMENT    privrinf      -- privileged recipient information --
                           – o (person*, encmeth?, enckinf?)>

             <! -- Sealed Document Profile -->
<!ELEMENT    sealedpr      -- sealed document profile descriptor --
                           – o EMPTY>
<!ATTLIST    sealedpr      id           ID #REQUIRED -- sealed document profile identifier --
                           sealatts     CDATA #REQUIRED -- sealed attributes -->

             <! -- Common elements -->
<!ELEMENT    scope         -- scope of list: "ODA", object type, con arch class --
                           – o (#PCDATA)>
<!ELEMENT    dvlist        -- list of attribute names and default values --
                           – o (#PCDATA)>
<!ELEMENT    (date | time) -- as defined by ISO 8601 --
                           – o (#PCDATA)>
<!ELEMENT    (docref | docrefid)
                           – o (pubid | asn1id | string)>
<!ELEMENT    (pubid | asn1id | string)
                           – o (#PCDATA)>
<!ELEMENT    person        -- personal name --
                           – o (surname, givename?, initials?, genqual?)>
<!ELEMENT    (surname, givename, initials, genqual)
                           – o (#PCDATA)>
```

Annexe F

Exemples de représentations de langage de document ouvert

(Cette annexe ne fait pas partie intégrante de la présente Norme internationale)

This annex is applicable to ISO/IEC 8613-5 only.

This annex illustrates the use of the Open Document Language (ODL) to represent a document and a document profile.

F.1   ODL representation of a document

This clause illustrates the use of ODL to represent the specimen document described in Annex B of ITU-T Rec. T.412 | ISO/IEC 8613-2.

F.1.1   Specific structure examples

An ODL document entity has two parts: a prolog, consisting of markup declarations, and a document instance, representing the specific logical and/or layout structures.

F.1.1.1   Processable form document

In this example, the first declaration (**DOCTYPE**) references the document type definition (DTD) of the logical structure to which the document instance conforms. Within its scope are two entity declarations that allow references to external content portions.

The second document type declaration references the DTD of the layout structure to which the formatted document will conform. There is also a link type declaration that references the link process definition (LPD) for the applicable layout and presentation styles.

```
<! -- Prolog referencing DTD's and LPD, and defining entities  -->
<!DOCTYPE    letter      SYSTEM "Reference to logical structure DTD"
[
 <! -- Entity declarations for specific logical content portions  -->
 <!ENTITY     diagram     SYSTEM "Content portion 3 1 2 0 0" NDATA gfp>
 <!ENTITY     signatur    SYSTEM "Content portion 3 1 6 0 0" NDATA rfp>
]>
<!DOCTYPE   l            SYSTEM "Reference to layout structure DTD">
<!LINKTYPE   ODAlay      letter  l [
 <!ENTITY     % laylpd     SYSTEM "Reference to layout LPD" > %laylpd;
 <! -- Link rule for exceptional paragraph in the body  -->
 <!IDLINK     ps2         para             #USELINK set 4  #IMPLIED>
 <!LINK       set4        #IMPLIED        %rca; [calign=j cfloff=1417 clinespc=400]>
]>
<! -- Document instance representing the specific logical structure  -->
<! -- Some markup minimization is used, but more is possible  -->
<letter>
<date>CESSON, 26 JUNE 1985
<addresse>To members of ISO/TC97/SC18/WG3
<subject>SUBJECT: PROPOSED EXAMPLE TO CLARIFY
THE DOCUMENT ARCHITECTURE MODEL
<summary>
<para>/* Unformatted string of SUMMARY */
<body>
<para>/* Unformatted string of A's */
<para id=ps2>
/* Unformatted string of B's */
<figure>
<drawing><gfp content=diagram>
<caption>/* Unformatted string of caption */
```

</figure>
<para>/* Unformatted string of C's */
<para>/* Unformatted string of D's */
<ending>
<sig-name>
<sig><rfp content=signatur>
<name>Miss Aude HEA Document Architect
</letter>

F.1.1.2 Formatted form document

This example illustrates the result of formatting the document represented in F.1.1.1 to produce a document in final formatted form. Note that paragraph **"C"**, which was a single element in the logical structure, has become two separate blocks in the layout structure.

<!DOCTYPE   l   SYSTEM "Reference to layout structure DTD">

<! -- Document instance representing the specific layout structure -->

<! -- Some markup minimization is used, but more is possible -->

< l >
<headerpg>
<logofram><logo content=ourlogo>
<date><cf pos="395 710" dim="3060 540">
CESSON, 26 JUNE 1985
<addresse><cf dim="4505 540">
To members of ISO/TC97/SC18/WG3
<subject><cf dim="7200 905" clinespc=300>
SUBJECT: PROPOSED EXAMPLE TO CLARIFY
THE DOCUMENT ARCHITECTURE MODEL
<summary><cf dim="5585 2325" calign=j cfloff=1417>
/* Formatted string of SUMMARY */
<bodypage><bodyfram>
<cf pos="540 540" dim="7935 1785" calign=j cfloff=1417 clinespc=300>
/* Formatted string of A's */
<cf pos="540 3205" dim="7935 1785" calign=j cfloff=1417 clinespc=400>
/* Formatted string of B's */
<gfp pos="1615 5895" dim="5045 4140" content=diagram>
<cf pos="1985 10235" dim="3970 370">
/* Formatted string of caption */
<cf pos="540 11485" dim="7935 1075" calign=j cfloff=1417 clinespc=300>
/* Formatted string of C's */
<bodypage><bodyfram>
<cf pos="540 540" dim="7935 1275" calign=j cfloff=1417 clinespc=300>
/* Formatted string of C's */
<cf pos="540 2695" dim="7935 1615" calign=j cfloff=1417 clinespc=300>
/* Formatted string of D's */
<cf pos="1820 5190" dim="6860 2155" calign=j cfloff=1020 clinespc=300>
/* Formatted string of FORMAL ENDING */
<rfp pos="2695 8110" dim="5585 2495" content=signatur>
<cf pos="5385 10605" dim="2520 905" clinespc=300>
Miss Aude HEA Document Architect
</ l >

F.1.1.3 Formatted processable form document

This example illustrates the result of formatting the document in F.1.1.1 to produce a document in formatted processable form.

The character content data elements differ from those in F.1.1.2 because their content architecture is **"cfp"** rather than **"cf"**. This result was achieved by inserting the following entity declaration in the prolog of F.1.1.1:

       <!ENTITY % rca "cfp" *-- Result content architecture: cf cfp -->*

This example also differs from F.1.1.1 in a number of respects:

1) The prolog contains an additional entity declaration, for **"%sca"**, which modifies the logical DTD and the LPD to specify **"cfp"** data elements rather than **"cp"**.

2) The document instance includes both the logical and the layout structure. Tags for the logical structure contain the document type specification **"(letter)"**, tags for the layout structure contain **"(l)"**, and tags that apply to both structures contain neither.

3) The data elements are **"cfp"** rather than **"cp"**.

4) The generic content portion for **"ending"** is no longer referenced, as it is not formatted. Instead, formatted text generated by the layout process occurs within the **"ending"** element.

```
<! -- Prolog referencing DTD's and LPD, and defining entities  -->
<!DOCTYPE    letter        SYSTEM "Reference to logical structure DTD"
[
 <! -- Entity declarations for specific logical content portions  -->
 <!ENTITY    diagram    SYSTEM "Content portion 3 1 2 0 0" NDATA gfp>
 <!ENTITY    signatur   SYSTEM "Content portion 3 1 6 0 0" NDATA rfp>
 <! -- Entity declaration to specify formatted processable content  -->
 <!ENTITY    % sca       "cfp" -- Source content architecture: cp cfp  -->
]>
<!DOCTYPE    l              SYSTEM "Reference to layout structure DTD" [
 <! -- Entity declarations for specific layout content portions  -->
 <!ENTITY    endcfp       CDATA "/* Formatted processable string of ENDING */ " >
]>
<!LINKTYPE   ODAlay    letter  l [
 <!ENTITY    % laylpd    SYSTEM "Reference to layout LPD" > %laylpd;
 <! -- Link rule for exceptional paragraph in the body  -->
 <!IDLINK     ps2        para            #USELINK set 4  #IMPLIED>
 <!LINK       set4       #IMPLIED       %rca; [calign=j cfloff=1417 clinespc=400]>
]>
<! -- Document instance representing specific logical & layout structures -- >
<! -- Some markup minimization is used, but more is possible  -->
<(letter)letter>  <( l )l>
<date>          <( l )cfp pos="395 710" dim="3060 540">
CESSON, 26 JUNE 1985
<address>       <( l )cfp dim="4505 540">
To members of ISO/TC97/SC18/WG3
<subject>       <( l )cfp dim="7200 905" clinespc=300>
SUBJECT: PROPOSED EXAMPLE TO CLARIFY THE DOCUMENT ARCHITECTURE MODEL
<summary>
<( l )cfp dim="5585 2325" calign=j cfloff=1417>
/* Formatted processable string of SUMMARY */
<(letter)body>
<( l )bodypage>
<(letter)para>
<( l )cfp pos="540 540" dim="7935 1785" calign=j cfloff=1417 clinespc=300 >
/* Formatted processable string of A's */
<(letter)para id=ps2>
<( l )cfp pos="540 3205" dim="7935 1785" calign=j cfloff=1417 clinespc=400 >
/* Formatted processable string of B's */
<(letter)figure>
<(letter)gfp content=diagram>
<( l )gfp pos="1615 5895" dim="5045 4140" content=diagram>
<(letter)caption>
<( l )cfp pos="1985 10235" dim="3970 370">
/* Formatted processable string of caption */
</(letter)figure>
<(letter)para>
<( l )cfp pos="540 11485" dim="7935 1075" calign=j cfloff=1417 clinespc=300 >
/* Formatted processable string of C's */
<( l )bodypage>
```

<(l)cfp pos="540 540" dim="7935 1275" calign=j cfloff=1417 clinespc=300 >
/* Formatted processable string of C's */
<(letter)para>
<(l)cfp pos="540 2695" dim="7935 1615" calign=j cfloff=1417 clinespc=300 >
/* Formatted processable string of D's */
<(letter)ending>
<(l)cfp pos="1820 5190" dim="6860 2155" calign=j cfloff=1020 clinespc=300
  content=endcfp>
<(letter)sig-name>
<(letter)rfp content=signatur>
<(l)rfp pos="2695 8110" dim="5585 2495" content=signatur>
<(letter)name><(l)cfp pos="5385 10605" dim="2520 905" clinespc=300>
Miss Aude HEA Document Architect
</(l)l></(letter)letter>

F.1.2 Generic structure

This subclause contains the document type definitions and link process definition that were referenced by the specific structure examples.

F.1.2.1 Generic logical structure

This subclause contains the document type definition (DTD) that represents the generic logical structure to which the specific logical structure conforms. The DTD could be included with the document, or (as shown in F.1.1) referenced from a document type declaration.

The entity declaration for **"% sca"** allows documents conforming to this DTD to contain either processable or formatted processable character content portions.

<! -- *Document Type Definition for Generic Logical Structure* **-->**

<! -- *External reference to declarations for data elements* **-->**
<!ENTITY   % ODAdlg PUBLIC "ISO/IEC 8613-5:1994//TEXT
                ODA Data Elements: Logical//EN">

        %ODAdlg;

<! -- *Switch, settable in document instance, to choose "cp" or "cfp"* **-->**
<!ENTITY   % sca "cp" *-- Source content architecture: cp cfp* **-->**

<! -- *Element and attribute declarations for remaining elements* **-- >**
<!ELEMENT   letter   o o   (header, body)>
<!ELEMENT   header   o o   (date, addresse, subject, summary)>
<!ELEMENT   summary o o   (para+)>
<!ELEMENT   body   – o   ((para | figure)+, ending, sig-name)>
<!ELEMENT   figure   – o   (drawing,caption)>
<!ELEMENT   drawing   o o   (gfp)>
<!ELEMENT   ending   – o   (%sca;)>
<!ELEMENT   sig-name – o   (sig,name)>
<!ELEMENT   sig   o o   (rfp)>
<!ELEMENT   (date | addresse | subject | para | caption | name)
                – o   (%sca;)>

F.1.2.2 Generic layout structure

This subclause contains the document type definition (DTD) that represents the generic layout structure to which the formatted document generated by the layout process conforms. The DTD could be included with the processable form document, or (as shown in F.1.1) referenced from a document type declaration.

<! -- *Document Type Definition for Generic Layout Structure* **-->**

<! -- *External reference to declarations for data elements* **-->**

```
<!ENTITY      % ODAdly PUBLIC "ISO/IEC 8613-5:1994//TEXT
                         ODA Data Elements: Layout//EN">
              %ODAdly;
```

<! -- *Entity declarations for generic content portions* -->
```
<!ENTITY      ourlogo NDATA "/* Image of our LOGO */">
```

<! -- *Element and attribute declarations for remaining elements* -->

`<!ELEMENT`	`l`	`– –`	`(headerpg, bodypage+)>`			
`<!ATTLIST`	`l`		`objtype`	`NAME`	`#FIXED dlar>`	
`<!ELEMENT`	`headerpg`	`o o`	`(logofram, date, addresse, subject, summary)>`			
`<!ATTLIST`	`headerpg`		`objtype`	`NAME`	`#FIXED page`	-- *object type* --
			`dim`	`CDATA`	`"9920 14030"`	-- *dimensions* -->
`<!ELEMENT`	`logofram`	`o o`	`(logo)>`			
`<!ATTLIST`	`logofram`		`objtype`	`NAME`	`#FIXED frame`	-- *object type* --
			`pos`	`CDATA`	`"710 730"`	-- *position* --
			`dim`	`CDATA`	`"3685 2495"`	-- *dimensions* -->
`<!ELEMENT`	`logo`	`o o`	`EMPTY>`			
`<!ATTLIST`	`logo`		`objtype`	`NAME`	`#FIXED block`	-- *object type* --
			`conarch`	`NAME`	`#FIXED rf`	-- *content arch* --
			`content`	`ENTITIES`	`ourlogo`	-- *content info* -->
`<!ELEMENT`	`(date | addresse | subject | summary)`					
		`– o`	`(cf | cfp)>`			
`<!ATTLIST`	`date`		`objtype`	`NAME`	`#FIXED frame`	-- *object type* --
			`pos`	`CDATA`	`"5045 565"`	-- *position* --
			`dim`	`CDATA`	`"3970 1615"`	-- *dimensions* -->
`<!ATTLIST`	`addresse`		`objtype`	`NAME`	`#FIXED frame`	-- *object type* --
			`pos`	`CDATA`	`"1105 4310"`	-- *position* --
			`dim`	`CDATA`	`"5395 1415"`	-- *dimensions* -->
`<!ATTLIST`	`subject`		`objtype`	`NAME`	`#FIXED frame`	-- *object type* --
			`pos`	`CDATA`	`"1105 6660"`	-- *position* --
			`dim`	`CDATA`	`"7200 1785"`	-- *dimensions* -->
`<!ATTLIST`	`summary`		`objtype`	`NAME`	`#FIXED frame`	-- *object type* --
			`pos`	`CDATA`	`"2180 9695"`	-- *position* --
			`dim`	`CDATA`	`"6290 3570"`	-- *dimensions* -->
`<!ELEMENT`	`bodypage`	`– o`	`(bodyfram)>`			
`<!ATTLIST`	`bodypage`		`objtype`	`NAME`	`#FIXED page`	-- *object type* --
			`dim`	`CDATA`	`"9920 14030"`	-- *dimensions* -->
`<!ELEMENT`	`bodyfram`	`o o`	`(%ODAdely;)+>`			
`<!ATTLIST`	`bodyfram`		`objtype`	`NAME`	`#FIXED frame`	-- *object type* --
			`pos`	`CDATA`	`"565 565"`	-- *position* --
			`dim`	`CDATA`	`"8815 12870"`	-- *dimensions* -->

F.1.2.3   Layout and presentation styles

This subclause contains the link process definition (LPD) that represents the layout and presentation attributes that govern the generation of the formatted document by the layout process. The LPD could be included with the processable form document, or (as shown in F.1.1) referenced from a link type declaration.

<! -- **Link process definition specifying the layout and presentation styles, and the layout object class.** -->

<! -- *External references to attribute definitions for layout directives* -->
```
<!ENTITY      % ldir-bc   PUBLIC "ISO/IEC 8613-5:1994//TEXT
                             Layout Directives: Basic and Composite//EN">
<!ENTITY      % ldir-b    PUBLIC "ISO/IEC 8613-5:1994//TEXT
                             Layout Directives: Basic//EN">
```

```
<! -- Entity declarations for generic content portions  -->
<!ENTITY        endcp        CDATA "/* Unformatted string of ENDING */">

<! -- Switch, settable in document instance, to choose "cf" or "cfp"  -->
<!ENTITY        % rca        "cf" -- Result content architecture: cf cfp  -->

<! -- Link attribute definitions for ODA layout directives  -->
<!ATTLIST       (letter | header | summary | body | figure | sig–name) %ldir–bc; >
<!ATTLIST       (date | addresse | subject | drawing |
                caption | para | ending | sig | name) %ldir–b; %ldir–bc;>

<! -- Parameter entities for layout styles  -->
<!ENTITY        % ls0        "[offset='00 710 00 395']" >
<!ENTITY        % ls4        "[offset='00 00 705 00']" >
<!ENTITY        % ls5        "[newlay='bodypage']" >
<!ENTITY        % ls6        "[indiv= 'bodyfram']" >
<!ENTITY        % ls7        "[offset='00 00 2155 1615' sep='00 905 00']" >
<!ENTITY        % ls8        "[offset='00 00 2860 1985' sep='00 200 00']" >
<!ENTITY        % ls9        "[offset='280 540 340 540' sep='00 880 00']" >
<!ENTITY        % ls10       "[offset='00 00 535 1420'  sep='00 880 00']" >
<!ENTITY        % ls11       "[offset='00 00 535 2695'  sep='00 765 00']" >
<!ENTITY        % ls12       "[offset='00 00 910 5385']" >

<! -- Parameter entities for presentation styles  -->
<!ENTITY        % ps0        "[clinespc=300]" >
<!ENTITY        % ps1        "[calign=j cfloff=1417]" >
<!ENTITY        % ps3        "[calign=j cfloff=1417 clinespc=300]" >
<!ENTITY        % ps4        "[calign=j cfloff=1020 clinespc=300]" >

<! -- Link set that will be active at start of document  -->
<!LINK #INITIAL
                letter                                          l
                header                                          headerpg
                body        #USELINK set1   %ls5;       #IMPLIED
                date                                    %ls0;       date
                addresse                                            addresse
                subject     #USELINK set2               subject
                summary     #USELINK set3               summary
>
<! -- Link set that will be active within the body  -- >
<!LINK set1     para        #USELINK set5   %ls9;       #IMPLIED
                figure                      %ls6;       #IMPLIED
                drawing                     %ls7;       #IMPLIED
                caption                     %ls8;       #IMPLIED
                ending      #USELINK set6   %ls10;      #IMPLIED
                signatur                    %ls11;      #IMPLIED
                name        #USELINK set7   %ls12;      #IMPLIED
>
<! -- Link set that will be active within the subject  -->
<!LINK set2     %sca;                               %rca;       %ps0; >
<! -- Link set that will be active within the summary  -->
<!LINK set3     para                        %ls4;       #IMPLIED
                %sca;                               %rca;       %ps1; >
<! -- Link set for normal paragraphs in the body  -->
<!LINK set5     #IMPLIED                            %rca;       %ps3; >
<! -- Link set that will be active within the ending  -->
<!LINK set6     %sca; [congen=E(endcp) gentype=coninfo] #IMPLIED
                #IMPLIED                            %rca;       %ps4; >
<! -- Link set that will be active within the name  -- >
<!LINK set7     %sca;                               %rca;       %ps0; >
```

F.2 ODL representation of a document profile

This clause illustrates the use of ODL to represent the example of a document profile described in Annex C of ITU-T Rec. T.414 | ISO/IEC 8613-4. Some markup minimization was used, but considerably more is possible.

```
<!DOCTYPE   profile      PUBLIC "ISO/IEC 8613-4:1993//DTD ODA Profile//EN" [
 <!ENTITY     optima     SYSTEM "Font Attribute Set conforming to ISO/IEC 9541-2">
 <!ENTITY     optimait  SYSTEM "Font Attribute Set conforming to ISO/IEC 9541-2">
]>
<profile>
            <! -- Document Constituents  -- >
<constit present='pgenlay speclay speclog'>
<resdoc>
<string>Finance Master,
Widget Inc.,
4511 McKenzie,
Atlanta, Georgia, USA.
          <! -- Document Characteristics  -- >
<docchar BMUscale="12 10" fp conarchs="cfp" sdif>
<approf>[TOP 5.5]
<appdefs>
<scope>ODA
<dvlist>dim="10200 13200" trans=o
<ODAver ODAdate="19920501">
ITU-T Rec. T.410 Series (1993) | ISO/IEC 8613 : 1994; version 2.00
        <! -- Non-basic Document Characteristics  -- >
<nonbasic>
<nbatts>
<scope>page
<dvlist>dim="13200 10200"
<scope>oda
<divlist>medium="10200,13200 r" protect=protect
<fontlist>
<fontrole>primary<fontref>optima
<fontrole>hilite<fontref>optimait
        <! -- Document Management Attributes  -- >
<docmanag>
<descript>
<title> May finance report
<subject>May results
<docrefid><string>May financial prelim.
<doctype>Report
<abstract>
The current figures show an improvement in return on assets but still show an undercapitalization of production capacity.
          <! -- Dates and Times  -- >
<dates>
<document><date>1988-06-05
<creation><date>1988-05-23<time>16:29:57
<filing><date>1988-06-05<time>11:51:03
<expiry><date>1989
<purge><date>1989-12-31
<release><date>1988-06-05
            <! -- Originators  -- >
<origin><organ>
Widget Inc.,
Finance and Control
<preparer><person>
<surname>Maltby<givename>Reginald<initials>P
<owner><organ>
Widget Inc.,
4511 McKenzie,
Atlanta, Georgia, USA.
```

```
<author><organ>Dewey, Cheatam & Howe CPA
        <! -- Other User Information -- >
<userinfo>
<copyrite>
<copyinfo>Widget Inc.
<copydate>1988
<status>May final report
<distlist><person><surname>Marks<initials>D
<distlist><person><surname>Bucks<initials>B<organ>Finance
<distlist><person><surname>Pencil<givename>James<initials>K<organ>Audits
<distlist><person><surname>Duck<initials>D
<distlist><person><surname>Zeckendorf<initials>L<organ>Editor
<addition>Signature receipt req'd
            <! -- References -- >
<extrefs>
<other>
<docref><string>April finance report
<docref><string>May balance
<docref><string>May accounting prelim.
<previous>
<docref><string>May financial A
<localref>
<filename>mayfin
<location>financial_previous
<filename>mayfin
<location>financial_current
        <! -- Content Attributes -- >
<contents size=40447 pages=16>
<language>US English
            <! -- Security Information -- >
<security>
<authoriz><organ>Widget Inc., Finance
<class>Company Financial
<access>Finance Group
</profile>
```

Annexe G

Utilisation du code de type élaboré ou canonique

(Cette annexe ne fait pas partie intégrante de la présente Norme internationale)

G.1   Problème à résoudre

Les règles du codage élaboré ou canonique ont été créées pour fournir des mécanismes de sécurité et d'intégrité utilisant des authentificateurs pour le matériel à transférer.

Le concept d'authentificateur est bien maîtrisé; il consiste à prendre le schéma de bits à transférer, à le soumettre à une certaine forme de fonction de découpage afin de le réduire à quelques octets, à coder ces octets de manière à authentifier l'authentificateur, puis à transmettre l'authentificateur avec le texte initial (ce dernier étant envoyé en clair). A la réception l'authentificateur est recalculé à partir du texte reçu en clair puis comparé à l'authentificateur reçu. Si les deux sont semblables, le texte n'a pas été altéré, sinon il l'a été.

Ce concept simple devient plus compliqué lorsqu'on utilise le modèle OSI, et en particulier la couche présentation.

Deux problèmes se posent: le premier concerne la modélisation et «l'indépendance de couche», et le second concerne l'utilisation de relais de la couche application tels que ceux utilisés dans les Rec. UIT-T de la série X.400 | ISO/CEI 10021.

En ce qui concerne la modélisation, la fonction de découpage et l'algorithme de cryptage font partie de l'opération d'application, mais l'application ne connaît pas et ne peut avoir d'effet sur le codage réel utilisé par la couche présentation. De même, à la réception, le décodage, et donc la destruction de la chaîne binaire, relèvent d'une question de couche présentation. Quatre solutions ont été proposées pour résoudre ce problème:

a) exclure l'utilisation, dans l'authentificateur, des octets réels produits par la couche présentation; (solution actuellement adoptée par les experts en présentation et ceux du groupe ULA);

b) introduire les mécanismes de découpage et d'authentification dans la couche présentation elle-même (cette solution n'a pas été adoptée car elle fait partie d'une question plus large, à savoir l'intégration du support pour cryptage dans l'ASN.1; à l'époque, ce rejet était motivé par le fait que les travaux en matière de sécurité n'avaient pas encore abouti, et que l'on se refusait à préjuger du résultat final);

c) modéliser une interaction complexe dans la couche présentation dans laquelle, lors de la transmission, une valeur est codée, puis renvoyée dans la couche application pour en déduire l'authentificateur, le tout est ensuite envoyé à la réception, les informations de codage reçues, tout en donnant la valeur abstraite, sont transmises à la couche application pour vérification de l'authentificateur (cette solution a été rejetée par le groupe ULA);

d) effectuer la totalité du codage dans la couche application, et ne pas utiliser les services de présentation pour la négociation de la syntaxe de transfert (cette méthode constitue un rejet pur et simple du modèle de référence OSI et ne saurait être acceptée comme solution générale).

Il pourrait être objecté qu'il faudra bien, à long terme, parvenir à un accord sur le choix d'un processus apparemment simple et réalisable (c'est-à-dire effectuer le codage, puis produire l'authentificateur, les transmettre tous les deux, vérifier l'authentificateur lors de la réception). Cet argument serait parfaitement justifié si le second problème relatif aux relais d'application ne se posait pas et s'il n'y avait pas d'autre solution réalisable. (Il s'agit ici en fait d'une autre solution, utilisée dans la Rec. UIT-T X.509 | ISO/CEI 9594-8, et considérée à la fois comme réalisable et permettant d'éviter les problèmes de modélisation et de système de relais.)

Le second problème réside dans le fait que, s'il y a un relais d'application, la syntaxe de transfert utilisée lors de la seconde transmission peut être différente de celle qui a été utilisée lors de la première (par exemple, l'utilisation de règles du codage condensé pour l'une d'entre elles et des règles du codage de base pour l'autre). Cela ne manquerait pas de perturber le fonctionnement de l'authentificateur, à moins que celui-ci ne soit ouvert et recalculé au niveau du relais, ce qui impliquerait des échanges de sécurité avec le relais, alors que le but recherché est la sécurité de bout en bout.

NOTE – Une forme de présentation telle que «ne pas décoder/recoder aux relais d'application» a été également proposée, mais cette solution n'évite pas les problèmes de modélisation et autres.

Nous en arrivons ainsi à essayer de travailler avec un modèle dans lequel la couche présentation (ainsi que tous les relais d'application intermédiaires) assure le transfert de la syntaxe abstraite et de la sémantique des informations, mais ne garantit pas que le codage du schéma de bits réel (la syntaxe de transfert) sera conservé de bout en bout.

Le problème est donc de créer un mécanisme d'authentification pouvant agir sur le type des données abstraites, plutôt que sur la chaîne binaire transmise.

C'est le groupe chargé des annuaires qui s'est efforcé le premier de trouver une solution à ce problème, et le modèle décrit plus loin est celui qu'il a mis au point.

G.2   Recherche d'une solution

Le texte ci-après décrit tout d'abord un modèle conceptuel des fonctions, puis une réalisation pratique optimisée avec suppression du double codage/décodage que suppose le modèle conceptuel.

Le modèle conceptuel fonctionne de la manière suivante:

   a) L'émetteur, dans la couche application, convertit la valeur de la syntaxe abstraite en une chaîne binaire, utilisant pour cela les règles du codage élaboré ou canonique; il détermine l'authentificateur à partir de cette chaîne binaire, qui est ajoutée à la valeur de la syntaxe abstraite, et les deux valeurs sont transmises en utilisant les mécanismes de la couche présentation normaux, et n'importe quelle syntaxe de transfert. Dans ce concept, l'émetteur effectue deux codages – l'un pour l'authentificateur (en utilisant les règles de codage élaboré ou canonique) dans la couche application, et l'autre dans le transfert lui-même (en utilisant la syntaxe de transfert négociée) dans la couche présentation.

   NOTE – La chaîne binaire produite par les règles du codage élaboré ou canonique possède une propriété importante, en ce qu'elle consiste à établir une correspondance univoque avec la valeur abstraite. Ainsi, le transfert de bout en bout sans perte d'information au niveau de la syntaxe abstraite équivaut à un transfert de bout en bout de la chaîne binaire pour laquelle l'authentificateur est créé.

   b) Le destinataire décode la chaîne binaire reçue dans la couche présentation, à l'aide de la syntaxe de transfert négociée (qui peut être différente de celle qu'a utilisée l'émetteur du relais d'application en place), et transmet la valeur abstraite à l'application. A l'intérieur de la couche application, la valeur abstraite est à nouveau codée selon les règles du codage élaboré ou canonique afin de produire la chaîne binaire à authentifier.

C'est ainsi que, selon ce concept, nous sommes amenés à coder deux fois dans la phase d'émission et à décoder une fois et à coder à nouveau une fois lors de la phase de réception. Les utilisateurs peuvent choisir ce processus si le code utilisé pour le fonctionnement de la couche présentation provient d'un fournisseur différent de celui qui a fourni le code de support de l'application. L'importance de ce service n'est pas encore définie à ce stade. Quoi qu'il en soit, en cas de mise en œuvre intégrée, l'optimisation décrite ci-après est possible. Il convient également de souligner que l'utilisation des règles du codage élaboré ou canonique n'est pas plus difficile que celle des règles du codage de base, sauf lors de l'utilisation de **SET OF** (**ENSEMBLE DE**). S'il faut traiter un important **SET OF** (**ENSEMBLE DE**), la mise en œuvre pourra nécessiter le recours à un programme de tri sur disquette. Les concepteurs des applications devraient tenir compte de ce dernier point et s'efforcer d'utiliser **SEQUENCE OF** (**SÉQUENCE DE**) à la place de **SET OF** (**ENSEMBLE DE**) dans les cas où ils envisagent l'utilisation des règles du codage élaboré ou canonique.

G.3   Optimisation de la mise en œuvre

Le modèle OSI et les normes de protocole définissent une conduite obligatoire mais ne cherchent en aucun cas à imposer des contraintes à l'architecture et à la structure du code de mise en œuvre proprement dit. Ainsi, les responsables de la mise en œuvre peuvent obtenir les effets recherchés en utilisant la méthode de leur choix.

On suppose que l'utilisation d'une longueur indéfinie, c'est-à-dire l'utilisation des règles du codage canonique de préférence à celles du codage élaboré, est mieux adaptée à un document ODA.

La partie émettrice peut mémoriser la chaîne binaire produite (théoriquement dans la couche application) et l'utiliser pour assurer le codage réalisé dans la couche présentation selon le concept. Cette méthode est valable pour l'émission si l'on a utilisé les règles du codage de base ASN.1 ou les règles du codage canonique (ou élaboré) ASN.1 comme syntaxe de transfert négociée. Sinon, le double codage est nécessaire.

De même, le destinataire peut conserver la chaîne binaire reçue (pour n'importe quelle syntaxe de transfert), et la mise en œuvre peut utiliser celle-ci afin de vérifier l'authentificateur. Si le résultat est correct, l'opération est terminée, sinon, il peut y avoir un problème de syntaxe de transfert et il est alors nécessaire de procéder à un nouveau codage à partir de la valeur abstraite afin de déterminer s'il y a eu altération ou non.

Afin d'accroître les chances de ne pas avoir à procéder à un double codage/décodage, les systèmes utilisant ce mécanisme devraient essayer de négocier une syntaxe de transfert des règles du codage canonique (ou élaboré) (à l'aide de l'identificateur d'objet ASN.1 approprié) en priorité, ou, à défaut, les règles du codage de base (en premier lieu), ou les règles du codage condensé ou d'autres règles de codage (en second lieu).