



UNIÓN INTERNACIONAL DE TELECOMUNICACIONES

UIT-T

SECTOR DE NORMALIZACIÓN
DE LAS TELECOMUNICACIONES
DE LA UIT

T.415

(03/93)

SERVICIOS TELEMÁTICOS

**EQUIPOS TERMINALES Y PROTOCOLOS
PARA LOS SERVICIOS DE TELEMÁTICA**

**TECNOLOGÍA DE LA INFORMACIÓN –
ARQUITECTURA DE DOCUMENTO
ABIERTA Y FORMATO DE INTERCAMBIO:**

**FORMATO DE INTERCAMBIO
DE DOCUMENTO ABIERTO**

Recomendación UIT-T T.415

(Anteriormente «Recomendación del CCITT»)

PREFACIO

La UIT (Unión Internacional de Telecomunicaciones) es el organismo especializado de las Naciones Unidas en el campo de las telecomunicaciones. El UIT-T (Sector de Normalización de las Telecomunicaciones de la UIT) es un órgano permanente de la UIT. En el UIT-T, que es la entidad que establece normas mundiales (Recomendaciones) sobre las telecomunicaciones, participan unos 179 países miembros, 84 empresas de explotación de telecomunicaciones, 145 organizaciones científicas e industriales y 38 organizaciones internacionales.

Las Recomendaciones las aprueban los Miembros del UIT-T de acuerdo con el procedimiento establecido en la Resolución N.º 1 de la CMNT (Helsinki, 1993). Adicionalmente, la Conferencia Mundial de Normalización de las Telecomunicaciones (CMNT), que se celebra cada cuatro años, aprueba las Recomendaciones que para ello se le sometan y establece el programa de estudios para el periodo siguiente.

En ciertos sectores de la tecnología de la información que corresponden a la esfera de competencia del UIT-T, se preparan las normas necesarias en colaboración con la ISO y la CEI. El texto de la Recomendación UIT-T T.415 se aprobó por la CMNT (Helsinki, 1-12 de marzo de 1993). Su texto se publica también, en forma idéntica, como Norma Internacional ISO/CEI 8613-5.

NOTAS

1) Como consecuencia de un proceso de reforma interna de la Unión Internacional de Telecomunicaciones (UIT), desde el 28 de febrero de 1993 ya no existe el CCITT. En su lugar, se creó el Sector de Normalización de las Telecomunicaciones de la UIT (UIT-T), con vigencia a partir del primero de marzo de 1993. De modo similar, en este proceso de reforma, el CCIR y la IFRB han sido sustituidos por el Sector de Radiocomunicaciones.

Con el fin de no retrasar la publicación de la presente Recomendación, no se han cambiado en el texto las referencias que contienen los acrónimos «CCITT, CCIR o IFRB» ni sus entidades relacionadas tales como Asamblea Plenaria, Secretaría, etc. Las futuras ediciones de la presente Recomendación contendrán la terminología apropiada relacionada con la nueva estructura de la UIT.

2) En esta Recomendación, la expresión «Administración» se utiliza para designar, en forma abreviada, tanto una Administración de telecomunicaciones como una empresa de explotación reconocida de telecomunicaciones.

© UIT 1995

Es propiedad. Ninguna parte de esta publicación puede reproducirse o utilizarse, de ninguna forma o por ningún medio, sea éste electrónico o mecánico, de fotocopia o de microfilm, sin previa autorización escrita por parte de la UIT.

ÍNDICE

	<i>Página</i>
1 Objeto.....	1
2 Referencias normativas	1
2.1 Recomendaciones | Normas Internacionales idénticas.....	2
2.2 Pares de Recomendaciones | Normas Internacionales de contenido técnico equivalente	2
2.3 Referencias adicionales.....	2
3 Definiciones	3
4 Abreviaturas	3
5 Convenios.....	3
6 Representaciones de documento	3
6.1 ODIF	3
6.2 ODL y SDIF.....	4
7 Formato de intercambio de documento abierto (ODIF).....	4
7.1 Descripción general	4
7.2 Clase A de formato de intercambio.....	5
7.3 Clase B de formato de intercambio	5
7.4 Descriptores y unidades de texto	6
7.5 Técnicas de codificación ASN.1 y criptográficas	7
7.6 Elementos de datos de intercambio.....	8
7.7 Descriptor de perfil de documento.....	8
7.8 Identificadores y expresiones.....	13
7.9 Descriptores de disposición	15
7.10 Descriptores lógicos.....	19
7.11 Descriptores de estilo.....	20
7.12 Lista de valores por defecto	22
7.13 Unidades de texto.....	24
7.14 Atributos de color	25
7.15 Descriptores de parte protegida.....	27
Anexo A – Representación codificada	29
Anexo B – Asignaciones de rótulos de clase de aplicación.....	31
Anexo C – Sumario de identificadores de objeto	32
Anexo D – Ejemplos	33
D.1 Ejemplo 1: Espécimen de documento extraído del Anexo B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; únicamente estructura de disposición específica	33
D.2 Ejemplo 2: Espécimen de documento extraído del Anexo B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; únicamente estructura lógica específica	39
D.3 Ejemplo 3: Espécimen de documento extraído del Anexo B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; estructura de disposición genérica, estructura lógica genérica y estructura lógica específica.....	43

Introducción

Esta Recomendación UIT-T | Norma Internacional fue preparada como publicación conjunta por la Comisión de Estudio VIII del CCITT y el Comité Técnico Mixto 1 ISO/CEI.

Actualmente, las Recomendaciones de la serie UIT-T T.410 | Norma Internacional ISO/CEI 8613 son las siguientes:

- introducción y principios generales;
- estructuras de documento;
- perfil de documento;
- formato de intercambio de documento abierto;
- arquitecturas de contenido de caracteres;
- arquitecturas de contenido de gráficos por puntos;
- arquitecturas de contenido de gráficos geométricos;
- especificación formal de la arquitectura de documento abierta (FODA).

(La especificación formal es aplicable únicamente a ISO/CEI 8613.)

Podrían añadirse otras Recomendaciones | Normas Internacionales a esta serie de Recomendaciones | Norma Internacional.

La elaboración de esta serie de Recomendaciones | Normas Internacionales se hizo inicialmente en paralelo con la norma ECMA-101: *Open Document Architecture*.

Esta serie de Recomendaciones | Normas Internacionales es una nueva edición de la serie de Recomendaciones T.410 del CCITT (1988) e ISO/CEI 8613: (1989).

Cambios técnicos significativos son la inclusión de las siguientes modificaciones acordadas por el CCITT e ISO/CEI:

- representación alternativa;
- anexo sobre la utilización de MHS/MOTIS;
- color;
- anexo sobre pruebas de conformidad;
- perfil de aplicación de documento, formulario y notación;
- seguridad;
- trenes;
- estilos;
- gráficos por puntos enlosados.

Además, se han aplicado algunos corrigendos técnicos a esta Recomendación | Norma Internacional.

Esta Recomendación | Norma Internacional contiene siete anexos:

- Anexo A (no integrante): Representación codificada;
- Anexo B (no integrante): Aplicaciones de rótulos de clase de aplicación;
- Anexo C (no integrante): Sumario de identificadores de objeto;
- Anexo D (no integrante): Ejemplos;
- Anexo E (integrante): Lenguaje de documento abierto (ODL) (este anexo es aplicable únicamente a ISO/CEI 8613-5);
- Anexo F (no integrante): Ejemplos de representaciones en lenguaje de documento abierto (este anexo es aplicable únicamente a ISO/CEI 8613-5);
- Anexo G (no integrante): Utilización del tipo de codificación distinguida o canónica.

NORMA INTERNACIONAL

RECOMENDACIÓN UIT-T

TECNOLOGÍA DE LA INFORMACIÓN – ARQUITECTURA DE DOCUMENTO ABIERTA Y FORMATO DE INTERCAMBIO: FORMATO DE INTERCAMBIO DE DOCUMENTO ABIERTO

1 Objeto

Las Recomendaciones UIT-T de la serie T.410 | ISO/CEI 8613 tienen por objeto facilitar el intercambio de documentos.

En el contexto de estas Recomendaciones | Normas Internacionales, se considera que los documentos son elementos tales como memorandos, cartas, facturas, formularios e informes, que pueden incluir imágenes y material tabulado. Los elementos de contenido utilizados en los documentos pueden incluir caracteres gráficos, elementos gráficos geométricos y elementos gráficos por puntos, todos los cuales pueden estar presentes en un mismo documento.

NOTA – Estas Recomendaciones | Normas Internacionales están concebidas de manera que admitan ampliaciones, tales como características de hipermedios, hojas de cálculo y otros tipos de contenido, tales como sonido y vídeo.

Además de los tipos de contenido definidos en estas Recomendaciones | Normas Internacionales, la arquitectura de documento abierta (ODA, *open document architecture*) también permite la inclusión en los documentos de tipos de contenido arbitrarios.

Estas Recomendaciones | Normas Internacionales se aplican al intercambio de documentos por medio de comunicaciones de datos o por intercambio de medios de almacenamiento.

Estas Recomendaciones | Normas Internacionales permiten el intercambio de documentos con uno o ambos de los fines siguientes:

- permitir la presentación prevista por el originador;
- permitir su procesamiento, con fines tales como edición y reformatación.

La composición de un documento en intercambio puede adoptar varias formas:

- formatada, que permite la presentación del documento;
- procesable, que permite el procesamiento del documento;
- formatada procesable, que permite la presentación y el procesamiento del documento.

Estas Recomendaciones | Normas Internacionales también permiten el intercambio de las estructuras de información ODA utilizadas para el procesamiento de los documentos intercambiados.

Esta Recomendación | Norma Internacional define:

- el formato del tren de datos utilizado para intercambiar documentos estructurados de acuerdo con la Recomendación UIT-T T.412 | ISO/CEI 8613-2;
- la representación de los constituyentes que pueden aparecer en un documento intercambiado.

NOTAS

- 1 Esta Recomendación UIT-T | Norma Internacional no especifica la representación codificada de elementos de contenido.
- 2 Los formatos de datos para atributos de presentación y atributos de codificación se definen en otras Recomendaciones UIT-T de la serie T.410 | ISO/CEI 8613.

2 Referencias normativas

Las siguientes Recomendaciones y Normas Internacionales contienen disposiciones que, mediante su referencia en este texto, constituyen disposiciones de la presente Recomendación | Norma Internacional. Al efectuar su publicación, las ediciones indicadas eran válidas. Todas las Recomendaciones y Normas son objeto de revisiones, por lo que se

preconiza que los participantes en acuerdos basados en esta Recomendación | Norma Internacional investiguen la posibilidad de aplicar las ediciones más recientes de las Recomendaciones y Normas indicadas. Los miembros de la CEI y la ISO mantienen registros de las Normas Internacionales en vigor. La Oficina de Normalización de las Telecomunicaciones del UIT mantiene una lista de las Recomendaciones UIT-T actualmente válida.

2.1 Recomendaciones | Normas Internacionales idénticas

- Recomendación UIT-T T.411 (1993) | ISO/CEI 8613-1:1994, *Tecnología de la información – Arquitectura de documento abierta y formato de intercambio: Introducción y principios generales*.
- Recomendación UIT-T T.412 (1993) | ISO/CEI 8613-2:1994, *Tecnología de la información – Arquitectura de documento abierta y formato de intercambio: Estructuras de documento*.
- Recomendación UIT-T T.414 (1993) | ISO/CEI 8613-4:1994, *Tecnología de la información – Arquitectura de documento abierta y formato de intercambio: Perfil de documento*.
- Recomendación UIT-T T.416 (1993) | ISO/CEI 8613-6:1994, *Tecnología de la información – Arquitectura de documento abierta y formato de intercambio: Arquitecturas de contenido de caracteres*.
- Recomendación UIT-T T.417 (1993) | ISO/CEI 8613-7:1994, *Tecnología de la información – Arquitectura de documento abierta y formato de intercambio: Arquitecturas de contenido de gráficos por puntos*.
- Recomendación UIT-T T.418 (1993) | ISO/CEI 8613-8:1994, *Tecnología de la información – Arquitectura de documento abierta y formato de intercambio: Arquitecturas de contenido de gráficos geométricos*.
- Recomendación UIT-T X.209-3¹⁾ | ISO/CEI 8825-3: ...¹⁾, *Tecnología de la información – Interconexión de sistemas abiertos – Especificación de reglas de codificación ASN.1: Reglas de codificación distinguida y canónica*.
- Recomendación UIT-T X.509 (1993) | ISO/CEI 9594-8:1994, *El directorio-Marco de autenticación*.

2.2 Pares de Recomendaciones | Normas Internacionales de contenido técnico equivalente

- Recomendación X.208 del CCITT (1988), *Especificación de la notación de sintaxis abstracta uno (ASN.1)*.
ISO/CEI 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1)*.
- Recomendación X.209 del CCITT (1988), *Especificación de reglas básicas de codificación para la notación de sintaxis abstracta uno (ASN.1)*.
ISO/CEI 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.

2.3 Referencias adicionales

- ISO 2022:1986, *Information processing – ISO 7-bit and 8-bit coded character sets – Code extension techniques*.
- ISO 8601:1988, *Data elements and interchange formats – Information interchange – Representation of dates and times*.
- ISO/IEC 8613-10:1991, *Information technology – Office Document Architecture (ODA) and Interchange Format – Part 10: Formal specifications*.
- ISO 8879:1986, *Information processing – Text and office systems – Standard Generalized Markup Language (SGML)*.
- ISO 9069:1988, *Information processing – SGML support facilities – SGML Document Interchange Format (SDIF)*.
- ISO/IEC 9541-2:1991, *Information technology – Font information interchange – Part 2: Interchange format*.

¹⁾ Actualmente en estado de proyecto.

3 Definiciones

Para los fines de esta Recomendación | Norma Internacional, se aplican las definiciones indicadas en la Recomendación UIT-T T.411 | ISO/CEI 8613-1.

Además, se aplican a esta Recomendación | Norma Internacional las definiciones de la Rec. X.208 del CCITT | ISO/CEI 8824 y la Rec. X.209 del CCITT | ISO/CEI 8825.

4 Abreviaturas

Para los fines de esta Especificación, se aplican las abreviaturas indicadas en la Rec. UIT-T.411 | ISO/CEI 8613-1.

Para los fines de esta Especificación se aplican las siguientes abreviaturas adicionales:

DTD	Definición de tipo de documento (<i>document type definition</i>)
EOC	Fin de contenido (<i>end of contents</i>)
GI	Identificador genérico SGML (<i>SGML generic identifier</i>)
IA5	Alfabeto internacional N.º 5 (<i>international alphabet No. 5</i>)
ID	Identificador único SGML (<i>SGML unique identifier</i>)
LIT	Comienzo o fin de literal (<i>literal start or end</i>)
LITA	Comienzo o fin de literal (alternativo) [<i>literal start or end (alternative)</i>]
LPD	Definición de proceso de enlace (<i>link process definition</i>)
OSI	Interconexión de sistemas abiertos (<i>open systems interconnection</i>)
ULA	Aplicaciones de capa alta (<i>upper layer applications</i>)
UTC	Tiempo universal coordinado (<i>coordinated universal time</i>)

5 Convenios

Para los fines de esta Especificación, se aplican los convenios indicados en la Rec. UIT-T T.411 | ISO/CEI 8613-1.

6 Representaciones de documento

Un documento estructurado con arreglo a las Recomendaciones UIT-T de la serie T.410 | ISO/CEI 8613 es representado para intercambio sea en el formato de intercambio de documento abierto (ODIF), o en el lenguaje de documento abierto (ODL), en unión del formato de intercambio de documento SGML (SDIF). Las representaciones ODIF y ODL/SDIF son técnicamente equivalentes; un documento puede ser transformado de una a otra sin pérdida de información semántica en cuanto a los constituyentes y atributos del documento.

La utilización de ODL y SDIF es aplicable únicamente a ISO/CEI 8613.

NOTA – Ambas representaciones en estructura de datos (ODIF) y en lenguaje (ODL) se han normalizado a fin de satisfacer los requisitos de representación de documentos en los distintos entornos de aplicación. ODIF, al ser una estructura de datos especificada utilizando ASN.1, está particularmente destinado a su utilización en un entorno OSI. ODL es particularmente apropiado para sistemas que comparten información a través de ficheros de texto marcados, especialmente cuando usuarios humanos pueden acceder directamente al marcado.

6.1 ODIF

ODIF es una sintaxis de datos abstracta en la que los constituyentes y atributos del documento están representados por una jerarquía de estructuras de datos e ítem de datos, especificados utilizando la notación de sintaxis abstracta ASN.1 definida en la Rec. UIT-T X.208 | ISO/CEI 8824.

La representación codificada de cada estructura de datos o elementos de datos se obtiene aplicando un conjunto de reglas de codificación.

ODIF se especifica en la cláusula 7.

NOTA – ASN.1 es un método de descripción formal que permite especificar tipos de datos pertinentes para una aplicación en términos de otros tipos de datos, incluidos tipos de datos básicos tales como «entero» y «cadena de octetos» que se definen en la propia Rec. UIT-T X.208 | ISO/CEI 8824. Las reglas de codificación básica para la ASN.1 se definen en la Rec. UIT-T X.209 del CCITT | ISO/CEI 8825 y se suman en el Anexo A.

6.2 ODL y SDIF

La utilización de ODL y SDIF es aplicable únicamente a ISO/CEI 8613.

ODL es un lenguaje en el que los constituyentes y atributos del documento son identificados por rótulos descriptivos, y se agrupan en una o más entidades de almacenamiento (por ejemplo, ficheros) según las necesidades del usuario.

En el intercambio, cada entidad ODL es representada por una única estructura de datos o ítem de datos, especificado utilizando ASN.1, en un tren de datos construido con arreglo al formato de intercambio de documento SGML definido en ISO 9069.

ODL se especifica en el Anexo E (normativo).

NOTA – ODL es una aplicación SGML conforme a ISO 8879.

7 Formato de intercambio de documento abierto (ODIF)

7.1 Descripción general

Un documento estructurado de acuerdo con las Recomendaciones UIT-T de la serie T.410 | ISO/CEI 8613 se representa por un tren de datos constituido por una o más estructuras de datos de los siguientes tipos:

- descriptor de perfil de documento;
- descriptor de objeto disposición;
- descriptor de clase de objeto de disposición;
- descriptor de objeto lógico;
- descriptor de clase de objeto lógico;
- descriptor de estilo de presentación;
- descriptor de estilo de disposición;
- unidad de texto;
- descriptor de perfil de documento sellado;
- descriptor de perfil de documento cifrado;
- descriptor de parte de cuerpo de documento precifrado;
- descriptor de parte de cuerpo de documento poscifrado.

Estas estructuras de datos se denominan *elementos de datos de intercambio*. Dentro de un tren de datos, los elementos de datos de intercambio se ordenan de acuerdo con ciertas reglas que se especifican más adelante. Esta Especificación define dos de estos conjuntos de reglas, que se denominan *clase A de formato de intercambio* y *clase B de formato de intercambio*.

En el descriptor de perfil de documento se indica cuál de estos dos conjuntos de reglas se aplica a un determinado tren de datos. En todos los casos, un tren de datos contiene un descriptor de perfil de documento, y sólo uno, que es siempre el primer elemento de datos de intercambio del tren de datos. El descriptor del perfil de documento puede ser la única estructura de datos del tren de datos.

Cuando un tren de datos ODIF se utiliza como parte de un tipo de datos externo ASN.1, la sintaxis abstracta estará formada por un tipo *secuencia de SEQUENCE OF ASN.1*, que hace referencia al tipo de **elemento de datos de intercambio (Interchange-Data-Element)**; la codificación del valor de datos constará de un número entero de octetos, formados aplicando las reglas de codificación básicas ASN.1; y el valor del identificador de objeto asociado será **{ 2 8 0 0 }**.

NOTA – Esta Especificación no define la manera de incorporar los elementos de datos de intercambio, ni el tipo de datos externos, en un protocolo de aplicación, ni la manera de establecer la correspondencia de éstos con las unidades de datos de servicio (en un entorno OSI).

7.2 Clase A de formato de intercambio

Según la clase A de formato de intercambio, un tren de datos está constituido por un descriptor de perfil de documento y, opcionalmente, uno o más elementos de datos de intercambio de los siguientes tipos:

- descriptor de objeto de disposición;
- descriptor de clase de objeto de disposición;
- descriptor de objeto lógico;
- descriptor de clase de objeto lógico;
- descriptor de estilo de presentación;
- descriptor de estilo de disposición;
- unidad de texto;
- descriptor de perfil de documento sellado;
- descriptor de perfil de documento cifrado;
- descriptor de parte de cuerpo de documento precifrado;
- descriptor de parte de cuerpo de documento poscifrado.

El orden de los elementos de datos de intercambio es el siguiente:

- a) descriptor de perfil de documento;
- b) descriptores de clase de objeto de disposición;
- c) descriptores de clase de objeto lógico;
- d) unidades de texto que representan porciones de contenido genérico;
- e) descriptores de estilo de presentación;
- f) descriptores de estilo de disposición;
- g) descriptores de objeto de disposición;
- h) descriptores de objeto lógico;
- i) unidades de texto que representan porciones de contenido específico;
- j) descriptores de perfil de documento sellados;
- k) descriptores de perfil de documento cifrados;
- l) descriptores de parte de cuerpo de documento precifrados;
- m) descriptores de parte de cuerpo de documento poscifrados.

Dentro de cada uno de los grupos de descriptores de objeto de disposición y de descriptores de objeto lógico, el orden de los descriptores es igual al orden secuencial definido en la Rec. UIT-T T.412 | ISO/CEI 8613-2.

Si el tren de datos contiene descriptores de objeto de disposición, las unidades de texto que representan porciones de contenido específico se ordenan según el orden de disposición secuencial; en otro caso, se ordenan según el orden lógico secuencial.

Dentro de cada uno de los demás grupos de elementos de datos de intercambio, el orden es arbitrario.

Para los objetos básicos que tienen especificadas descripciones alternativas, hay un descriptor que representa la descripción primaria y un descriptor para cada descripción alternativa. En el tren de datos, los descriptores correspondientes a descripciones alternativas de descripciones de objeto básico vienen inmediatamente después de los descriptores de su descripción primaria, por orden de preferencia decreciente. Las unidades de texto que representan las porciones de contenido asociadas a los subárboles alternativos siguen inmediatamente después de las que representan las porciones de contenido asociadas al subárbol primario, en el orden de preferencia decreciente.

7.3 Clase B de formato de intercambio

Según la clase B de formato de intercambio, un tren de datos está constituido por un descriptor de perfil de documento y, opcionalmente, uno o más elementos de datos de intercambio de los siguientes tipos:

- descriptor de objeto de disposición;
- descriptor de clase de objeto de disposición;
- descriptor de estilo de presentación;

- unidad de texto;
- descriptores de perfil de documento sellados;
- descriptores de perfil de documento cifrados;
- descriptores de parte de cuerpo de documento poscifrados.

La clase B de formato de intercambio puede utilizarse sólo para representar documentos que no contengan ninguna estructura lógica específica ni genérica, es decir, documentos que se ajusten a la clase de arquitectura de documento formatada.

NOTA – La clase B de formato de intercambio se proporciona únicamente para utilización con el perfil de aplicación de documento en el intercambio de documentos facsímil del grupo 4, como se especifica en la Recomendación UIT-T T.503.

El orden de los elementos de datos de intercambio es el siguiente:

- a) descriptor de perfil de documento;
- b) descriptores de clase de objeto de disposición y unidades de texto asociadas;
- c) descriptores de estilo de presentación;
- d) descriptores de objeto de disposición y unidades de texto asociadas;
- e) descriptores de perfil de documento sellados;
- f) descriptores de perfil de documento cifrados;
- g) descriptores de parte de cuerpo de documento poscifrados.

Dentro del grupo de descriptores de clase de objeto de disposición y unidades de texto asociadas, el orden es tal que un grupo de descriptores que tienen identificadores idénticos, excepto el último número de cada identificador, se siguen entre sí en el tren de datos sin ningún otro descriptor entre ellos. Sin embargo, cada descriptor de una clase de objeto para un objeto de disposición básico va seguido inmediatamente por las unidades de texto asociadas.

Dentro del grupo de descriptores de objeto de disposición y unidades de texto asociadas, el orden de los descriptores es igual al orden secuencial definido en la Rec. UIT-T T.412 | ISO/CEI 8613-2. Sin embargo, cada descriptor de un objeto de disposición básico va seguido inmediatamente por las unidades de texto asociadas.

Dentro del grupo de descriptores de estilo de presentación, el orden es arbitrario.

7.4 Descriptores y unidades de texto

Un descriptor de perfil de documento, descriptor de objeto de disposición, descriptor de clase de objeto de disposición, descriptor de objeto lógico, descriptor de clase de objeto lógico, descriptor de estilo de presentación, descriptor de estilo de disposición, descriptor de perfil de documento sellado, descriptor de perfil de documento cifrado, descriptor de parte de cuerpo de documento precifrado o descriptor de parte de cuerpo de documento poscifrado consta de ítems de datos simples y compuestos que representan los atributos del constituyente considerado.

El perfil de documento, cada clase de objeto, cada estilo, cada objeto y cada parte protegida se representa por un descriptor.

Una unidad de texto consta de dos partes:

- a) un campo de atributo, es decir, una estructura de datos constituida por ítems de datos simples y compuestos que representan los atributos de la porción de contenido considerada;
- b) un campo de información, es decir, una estructura de datos que es un ítem de datos o un conjunto de ítems de datos que representan los elementos de contenido que componen la porción de contenido considerada.

Cada porción de contenido viene representada por una unidad de texto.

Los formatos de datos de los elementos de datos de intercambio se especifican en 7.6 a 7.15, utilizando la notación de sintaxis abstracta ASN.1 definida en la Rec. UIT-T X.208 | ISO/CEI 8824.

NOTA – Las subcláusulas 7.6 a 7.15 no definen completamente por sí mismos el formato del tren de datos; en 7.1 a 7.5 de esta Especificación y en otras Especificaciones de las Recomendaciones de la serie UIT-T T.410 | ISO/CEI 8613 se especifican reglas adicionales. Por ejemplo, la palabra clave **OPTIONAL** indica simplemente que una determinada estructura de datos o un determinado ítem de datos no forma parte de cada instancia de la estructura de datos continente; las condiciones que controlan la presencia o ausencia de la estructura de datos o del ítem de datos se especifican en la Rec. UIT-T T.412 o T.414 | ISO/CEI 8613-2 ó 8613-4.

7.5 Técnicas de codificación ASN.1 y criptográficas

7.5.1 Información cifrada

Las partes del cuerpo del documento o las partes del perfil de documento que son el resultado de un proceso de cifrado formarán un nuevo constituyente del documento. Consta de un identificador y la información cifrada. La última es del tipo **OCTET STRING** de ASN.1, cuyo valor permanecerá inalterado en cualquier transferencia.

7.5.2 Información sellada

Los atributos de seguridad de ODA y las partes de documento de ODA se definen en ASN.1. Para asegurar una codificación única de ASN.1, se utilizan las reglas de codificación distinguidas o canónica de ASN.1. Estas reglas se definen en la Rec. UIT-T X.209-3 | ISO/CEI 8825-3 y la información sobre cómo pueden utilizarse en el Anexo G. Las reglas de codificación distinguida y canónica de ASN.1 especifican un conjunto de restricciones de las reglas de codificación básicas de ASN.1, que proporcionan una correspondencia única entre ASN.1 y su representación. Esto se requiere desde un punto de vista criptográfico.

La principal diferencia entre las reglas de codificación distinguida y canónica son que las primeras utilizan una codificación de longitud definida, mientras que las últimas utilizan longitud indefinida. Las reglas de codificación distinguida son más adecuadas si el valor codificado es suficientemente pequeño para encajar en la memoria disponible, y existe necesidad de saltar rápidamente sobre algunos valores anidados. Las reglas de codificación canónica son más adecuadas, y existe necesidad de codificar valores que sean tan grandes que no puedan fácilmente encajar en la memoria disponible, o es necesario codificar y transmitir parte de un valor antes de que esté disponible el valor completo.

Las partes de perfil de documento y las partes de cuerpo de documento sujetas a sellado permanecen inalteradas después del proceso de sellado. Las reglas de codificación distinguidas ASN.1 asegurarán que el destinatario pueda establecer la misma codificación de la información que la utilizada por el originador en el sellado. Esto es necesario para obtener huellas dactilares idénticas de la información, que es la manera de asociar el contenido al sello.

El sello se compone de un conjunto de datos. Su generación se efectúa en tres etapas básicas:

- La información elegida (codificada utilizando las reglas de codificación distinguida o canónica ASN.1 de acuerdo con el atributo de perfil de documento «codificación de información sellada») es la entrada a un proceso de desmenuzamiento que genera una huella dactilar. La forma codificada de la huella dactilar es una CADENA DE OCTETOS (**OCTET STRING**).
- Al conjunto de la huella dactilar y la información opcional adicional se le llama **información sellada (Sealed-Information)**. Los parámetros opcionales son la fecha y la hora del día, de acuerdo con ISO 8601, el nombre y el lugar del creador del sello. Esto es la entrada (codificada una vez más utilizando las reglas de codificación distinguidas o canónicas ASN.1 de acuerdo con el atributo de perfil de documento «codificación de información sellada») a un proceso criptográfico que genera el sello. La forma codificada del sello es una CADENA DE OCTETOS (**OCTET STRING**).
- Provisión de información sobre el método de sellado de modo que pueda verificarse el sello. Se especifica en el tipo de **método de sellado (Seal-Method)** y consta de información sobre la generación de la huella dactilar y sobre cómo descifrar el sello.

El orden de los constituyentes es igual al especificado por la clase de formato de intercambio.

Cuando el orden de los constituyentes no se especifica completamente mediante la clase de formato de intercambio, se aplican las reglas siguientes:

- las clases de objeto deben sellarse en el mismo orden que están especificadas en el parámetro «constituyentes sellados»;
- para la clase de formato de intercambio A, las porciones de contenido común han de sellarse en el mismo orden que las clases de objeto correspondientes;
- los estilos de presentación deben sellarse en el mismo orden que están especificados en el parámetro «constituyentes sellados»;
- los estilos de disposición deben sellarse en el mismo orden que están especificados en el parámetro «constituyentes sellados».

7.6 Elementos de datos de intercambio

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

DEFINITIONS ::= BEGIN

EXPORTS Interchange-Data-Element;

IMPORTS Document-Profile-Descriptor

FROM Document-Profile-Descriptor

-- véase 7.7

Layout-Class-Descriptor, Layout-Object-Descriptor

FROM Layout-Descriptors

-- véase 7.9

Logical-Class-Descriptor, Logical-Object-Descriptor

FROM Logical-Descriptors

-- véase 7.10

Presentation-Style-Descriptor, Layout-Style-Descriptor

FROM Style-Descriptors

-- véase 7.11

Text-Unit

FROM Text-Units

-- véase 7.13

Sealed-Doc-Prof-Descriptor, Enciphered-Doc-Prof-Descriptor,

Preenciphered-Bodypart-Descriptor, Postenciphered-Bodypart-Descriptor

FROM Protected-Part-Descriptors;

-- véase 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 Descriptor de perfil de documento

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

-- véase 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

-- véase 7.9

Protection

FROM Logical-Descriptors

-- véase 7.10

Content-Architecture-Class, Content-Type, Block-Alignment, Fill-Order

FROM Style-Descriptors

-- véase 7.11

Type-Of-Coding

FROM Text-Units

-- véase 7.13

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

FROM Colour-Attributes

-- véase 7.14

Character-Content-Defaults, Char-Presentation-Feature,

Character-Coding-Attribute

FROM Character-Profile-Attributes { 2 8 1 6 4 }

-- véase la 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 } -- véase la 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 } -- véase la Rec. UIT-T T.418 | ISO/CEI 8613-8
 Font-Attribute-Set
 FROM ISO-STANDARD-9541-FONT-ATTRIBUTE-SET { 1 0 9541 2 2 }; -- véase 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,

 -- para las estructuras genéricas:
 -- 'partial-generator-set' se representa por "0",
 -- 'complete-generator-set' se representa por "1",
 -- 'factor-set' se representa por "2";
 -- para los demás casos, la cadena numérica tiene el valor 'present'
 -- representado por "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,

- los siguientes rótulos están reservados para tipos adicionales
- de valores por defecto de contenido:
 - [4] videotex, para utilizar conjuntamente con Recomendaciones del CCITT
 - [5] audio
 - [6] gráficos dinámicos

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,
-- cada una de estas cadenas de octetos representa una cadena de secuencias de escape	
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,
-- los siguientes rótulos están reservados para tipos adicionales	
-- de atributos de presentación:	
-- [13] videotex, para utilizar conjuntamente con las Recomendaciones del CCITT	
-- [14] audio	
-- [15] gráficos dinámicos	
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,

- los siguientes rótulos están reservados para tipos adicionales
- de atributos de codificación:
 - [18] videotex, para utilizar conjuntamente con las Recomendaciones del CCITT
 - [19] audio
 - [20] gráficos dinámicos

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
-- cadena de caracteres tomados de los juegos de caracteres designados por el atributo		
-- "profile character sets", más retorno del carro y cambio de renglón		
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
-- cadena de caracteres que representa una fecha y, opcionalmente, una hora -- de acuerdo con 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 Identificadores y expresiones

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**

-- véase 7.9

Logical-Object-Type**FROM Logical-Descriptors;**

-- véase 7.10

Content-Portion-Identifier ::= [APPLICATION 0] IMPLICIT PrintableString*-- en la presente versión de la norma sólo se utilizan dígitos y espacio;**-- otros caracteres están reservados para ampliaciones***Object-or-Class-Identifier ::= [APPLICATION 1] IMPLICIT PrintableString***-- en la presente versión de la norma sólo se utilizan dígitos y espacio;**-- otros caracteres están reservados para ampliaciones;**-- un valor 'nulo' se representa por una cadena vacía***Style-Identifier ::= [APPLICATION 5] IMPLICIT PrintableString***-- en la presente versión de esta Especificación sólo se utilizan dígitos y espacio;**-- otros caracteres están reservados para ampliaciones;**-- un valor 'nulo' se representa por una cadena vacía***Protected-Part-Identifier ::= [APPLICATION 7] IMPLICIT PrintableString***-- en la presente versión de esta Especificación sólo se utilizan dígitos y espacio;**-- otros caracteres están reservados para ampliaciones;**-- un valor 'nulo' se representa por una cadena vacía***Category-Name ::= PrintableString***-- un valor 'nulo' se representa por una cadena vacía***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
  identifier
  expression
  binding-identifier
  CHOICE {
    Object-or-Class-Identifier,
    Binding-Selection-Function },
  Binding-Name }

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

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

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

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

END

```

7.9 Descriptores de disposición

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

-- véase 7.8

Presentation-Attributes

FROM Style-Descriptors

-- véase 7.11

Default-Value-Lists-Layout

FROM Default-Value-Lists

-- véase 7.12

Colour-Expression, Colour-Table

FROM Colour-Attributes;

-- véase 7.14

```

Position-Spec          ::= SET {
  offset
  leading
  trailing
  left-hand
  right-hand
  separation
  leading
  trailing
  centre
  alignment
  [0] IMPLICIT SET {
    [0] IMPLICIT INTEGER OPTIONAL,
    [1] IMPLICIT INTEGER OPTIONAL,
    [2] IMPLICIT INTEGER OPTIONAL,
    [3] IMPLICIT INTEGER OPTIONAL } OPTIONAL,
  [1] IMPLICIT SET {
    [0] IMPLICIT INTEGER OPTIONAL,
    [1] IMPLICIT INTEGER OPTIONAL,
    [2] IMPLICIT INTEGER OPTIONAL } OPTIONAL,
  [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 } }
<i>-- la elección 'not-present' indica que el parámetro no está presente</i>	
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 }
<i>-- la elección 'not-present' indica que el parámetro no está presente</i>	
Transparency	::= INTEGER { transparent (0), opaque (1) }
Comment-String	::= OCTET STRING
<i>-- cadena de caracteres tomados de los juegos designados por el atributo</i>	
<i>-- de perfil del documento "juegos de caracteres para comentarios",</i>	
<i>-- más funciones de control de extensión de código,</i>	
<i>-- retorno del carro y cambio de renglón</i>	
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 } }
<i>-- la elección 'not-present' indica que el parámetro no está presente</i>	
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 line-width line-type	::= SET { [0] IMPLICIT INTEGER OPTIONAL, [1] IMPLICIT INTEGER { invisible (0), solid (1), dashed (2), dot (3), dash-dot (4), dash-dot-dot (5) } OPTIONAL, [2] IMPLICIT INTEGER OPTIONAL, [3] Border-Line-Colour OPTIONAL }
freespace-width border-line-colour	
<i>-- un borde de marco 'nulo' se representa por un conjunto vacío</i>	
Colour-Of-Medium unspecified-colour specified-colour	::= CHOICE { [3] IMPLICIT NULL, Colour-Expression }
Border-Line-Colour implementation-defined colour-expression	::= CHOICE { [3] IMPLICIT NULL, Colour-Expression }
Content-Background-Colour content-background-transparency colour-expression	::= CHOICE { [2] IMPLICIT NULL, Colour-Expression }
Content-Foreground-Colour implementation-defined content-foreground-transparency colour-expression	::= CHOICE { [3] IMPLICIT NULL, [2] IMPLICIT NULL, Colour-Expression }
Enciphered enciphered-subordinates none-all partial protected-part-id	::= SEQUENCE { CHOICE { [0] IMPLICIT INTEGER { none(0), all(1) }, [1] IMPLICIT SEQUENCE OF NumericString }, [2] IMPLICIT Protected-Part-Identifier OPTIONAL }
Sealed sealed-status seal-ids	::= SEQUENCE { [0] IMPLICIT INTEGER { no(0), yes(1) }, [1] IMPLICIT SET OF INTEGER OPTIONAL }
Layout-Object-Descriptor object-type descriptor-body	::= SEQUENCE { Layout-Object-Type OPTIONAL, 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 object-identifier subordinates content-portions object-class position dimensions transparency presentation-attributes default-value-lists user-readable-comments bindings layout-path imaging-order layout-stream-categories layout-stream-sub-categories permitted-categories	::= SET { Object-or-Class-Identifier OPTIONAL, [0] IMPLICIT SEQUENCE OF NumericString OPTIONAL, [1] IMPLICIT SEQUENCE OF NumericString OPTIONAL, [2] IMPLICIT Object-or-Class-Identifier OPTIONAL, [3] IMPLICIT Measure-Pair OPTIONAL, [4] IMPLICIT Dimension-Pair OPTIONAL, [5] IMPLICIT Transparency OPTIONAL, [6] IMPLICIT Presentation-Attributes OPTIONAL, [7] IMPLICIT Default-Value-Lists-Layout OPTIONAL, [8] IMPLICIT Comment-String OPTIONAL, [9] IMPLICIT SET OF Binding-Pair OPTIONAL, [11] IMPLICIT One-Of-Four-Angles OPTIONAL, [12] IMPLICIT SEQUENCE OF NumericString OPTIONAL, [36] IMPLICIT SET OF Category-Name OPTIONAL, [37] IMPLICIT SET OF Category-Name OPTIONAL, [13] IMPLICIT SET OF Category-Name OPTIONAL,
<i>-- un valor 'nulo' se representa por un conjunto vacío</i>	
user-visible-name page-position medium-type presentation-style balance	[14] IMPLICIT Comment-String OPTIONAL, [15] IMPLICIT Measure-Pair OPTIONAL, [16] IMPLICIT Medium-Type OPTIONAL, [17] IMPLICIT Style-Identifier OPTIONAL, [21] IMPLICIT SEQUENCE OF Object-or-Class-Identifier OPTIONAL,

-- un valor 'nulo' se representa por un conjunto vacío

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,

-- un valor 'nulo' se representa por un conjunto vacío

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,

-- un valor 'nulo' se representa por un conjunto vacío

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 Descriptores lógicos

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 -- véase 7.8
Comment-String, Binding-Pair, Enciphered, Sealed
FROM Layout-Descriptors -- véase 7.9
Presentation-Attributes FROM Style-Descriptors -- véase 7.11
Default-Value-Lists-Logical
FROM Default-Value-Lists; -- véase 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,

-- destinados sólo para el atributo clase de arquitectura de contenido;
-- sólo puede hacerse referencia a los atributos específicos de la arquitectura de contenido
-- por medio del estilo de presentación

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,

-- destinados sólo para el atributo clase de arquitectura de contenido;
-- sólo puede hacerse referencia a los atributos específicos de la arquitectura de contenido
-- por medio del estilo de presentación

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 Descriptores de estilo

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 -- véase 7.8
Comment-String, Transparency, Colour, Border,
Layout-Object-Type, Content-Background-Colour, Content-Foreground-Colour, Sealed
FROM Layout-Descriptors -- véase 7.9
Colour-Expression, Colour-Table
FROM Colour-Attributes -- véase 7.14
Character-Attributes
FROM Character-Presentation-Attributes { 2 8 1 6 2 } -- véase la Rec. UIT-T T.416 | ISO/CEI 8613-6
Raster-Graphics-Attributes
FROM Raster-Gr-Presentation-Attributes { 2 8 1 7 2 } -- véase la Rec. UIT-T T.417 | ISO/CEI 8613-7
Geometric-Graphics-Attributes
FROM Geo-Gr-Presentation-Attributes { 2 8 1 8 2 }; -- véase la 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,
  -- los siguientes rótulos están reservados para tipos adicionales de atributos de presentación:
  -- [3] videotex, para utilizar conjuntamente con las Recomendaciones del CCITT
  -- [4] audio
  -- [5] gráficos dinámicos

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

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

```

- La representación entera para la clase de arquitectura de contenido,
- Content-Type, sólo debe utilizarse si el valor del atributo de
- perfil del documento “perfil de aplicación de documento” es un entero.
- El valor formatted-raster-graphics representa la arquitectura de contenido de
- gráficos por puntos formatada definida en 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 Lista de valores por defecto

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 -- véase 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

-- véase 7.9

Protection FROM Logical-Descriptors

-- véase 7.10

Presentation-Attributes

FROM Style-Descriptors

-- véase 7.11

Colour-Expression, Colour-Table

FROM Colour-Attributes;

-- véase 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,
<i>-- destinados sólo para el atributo clase de arquitectura de contenido; sólo puede hacerse</i> <i>-- referencia a los atributos específicos de la arquitectura de contenido por medio</i> <i>-- del estilo de presentación</i>		
protection		< Attribute OPTIONAL,
presentation-style		< Attribute OPTIONAL,
layout-style		< Attribute OPTIONAL,
sealed		< Attribute OPTIONAL }

```

Attribute ::= CHOICE {
    position
    dimensions
    transparency
    presentation-attributes
    layout-path
    page-position
    medium-type
    permitted-categories
    layout-stream-categories
    layout-stream-sub-categories
    protection
    presentation-style
    layout-style
    colour
    colour-of-layout-object
    object-colour-table
    content-background-colour
    content-foreground-colour
    content-colour-table
    border
    sealed
}
END

```

7.13 Unidades de texto

Text-Units { 2 8 1 5 12 }

DEFINITIONS ::= BEGIN

EXPORTS Text-Unit, Type-Of-Coding;

```

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

```

```

Text-Unit ::= SEQUENCE {
    content-portion-attributes
    content-information
}

Content-Portion-Attributes ::= SET {
    content-identifier-layout
    content-identifier-logical
    type-of-coding
    coding-attributes
    character-coding-attributes
    raster-gr-coding-attributes
    geo-gr-coding-attributes
    videotex-coding-attributes

    -- la utilización del ítem de datos "videotex-coding-attributes" es aplicable únicamente a las
    -- Recomendaciones UIT-T de la serie T.410

    -- los siguientes rótulos están reservados para tipos adicionales de atributos de codificación:
    -- [9] audio
    -- [10] gráficos dinámicos

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

Content-Information ::= CHOICE {
    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

- cadena de caracteres tomados de los juegos designados por el atributo
- de perfil del documento "juegos de caracteres de representación alternativa",
- más retorno del carro y cambio de renglón

END

7.14 Atributos de color

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;

-- véase 7.7

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

Colour-Expression ::= SEQUENCE {
 colour-access-mode [0] IMPLICIT INTEGER { direct (0), indexed (1) },
 [1] CHOICE {
 [0] IMPLICIT Direct-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 {
 [0] IMPLICIT INTEGER,
 [1] Colour-Specification,
 [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), cielv (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,
cielv		[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 Descriptores de parte protegida

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;

-- véase 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

Anexo A

Representación codificada

(Este anexo no es parte integrante de esta Recomendación | Norma Internacional)

Este anexo es un sumario de las reglas de codificación básicas para la notación de sintaxis abstracta uno (ASN.1) definida en la Rec. UIT-T T.209 | ISO/CEI 8825.

La representación codificada de cada estructura de datos o ítem de datos que constituye la totalidad, o parte, de un descriptor o una unidad de texto consta de un campo de tipo, un campo de longitud y un campo de valor.

Si el ítem de datos considerado es un ítem de datos elemental, entonces el campo de tipo especifica el tipo de dato elemental, el campo de longitud especifica la longitud del campo de valor, y el campo de valor representa el valor del ítem de datos.

Si la estructura de datos o el ítem de datos considerado no es elemental, entonces el campo de tipo identifica el atributo o el grupo de atributos que corresponden a la estructura de datos o al ítem de datos, el campo de longitud especifica la longitud del campo de valor, y el campo de valor consta de uno o más tríos, cada uno de los cuales se compone de un campo de tipo, un campo de longitud y un campo de valor, que representan las estructuras de datos y los ítem de datos subordinados.

El *campo de tipo* (denominado «octetos de identificador» en la Rec. UIT-T X.209 | ISO/CEI 8825) consta de uno o más bytes. Los bits del primer byte se utilizan como sigue:

- bits 8 y 7: clase de rótulo (00: universal,
01: aplicación,
10: específico del contexto,
11: privado);
- bit 6: forma de codificación de contenido (0: simple,
1: estructurada);
- bits 5 a 1: 00000 a 11110: número de rótulo;
11111 indica un campo de tipo multiocteto.

En la Recomendación X.208 del CCITT | ISO/CEI 8824 y Recomendación X.209 del CCITT | ISO/CEI 8825 se han asignado los números de rótulo para rótulos universales como se indica en el Cuadro A.1.

Cuadro A.1 – Rótulos de clase universales

Tipos de datos incorporados	Tipos de datos definidos
0: fin de contenido 1: booleano 2: entero 3: cadena de bits 4: cadena de octetos 5: nulo 6: identificador de objeto 7: descriptor de objeto 8: externo 9: real 10: enumerado 11: encriptado 16: secuencia 17: conjunto	18: cadena numérica 19: cadena imprimible 20: cadena teletex 21: cadena de videotex 22: cadena IA5 23: tiempo UTC 24: tiempo generalizado 25: cadena de caracteres gráficos 26: cadena general 27: cadena visible

Los ítem de datos de tipo fin de contenido, booleano, entero o nulo son simples (ítem de datos elementales). Las secuencias y los conjuntos son estructurados (estructuras de datos con ítem de datos subordinados). Los ítem de datos tipo cadena de bits, cadena de octetos y cualquiera de los tipos de datos definidos pueden ser simples o estructurados.

ISO/CEI 8613-5 : 1994 (S)

El *campo de longitud* está constituido por uno o más bytes, y adopta una de estas tres formas: corta, larga e indefinida. Los bits del primer byte se utilizan como sigue:

bit 8: forma del campo de longitud (0: corta,
1: larga o indefinida);

bits 7 a 1: si el bit 8 = 0: número de bytes del campo de valor;
 si el bit 8 = 1: número de bytes del campo de longitud que sigue al primer octeto;
 0000000 indica que el campo de longitud es de forma indefinida.

Una estructura de datos o un ítem de datos o un campo de longitud indefinida tiene que ser estructurado y tiene que ser terminado por un delimitador constituido por un ítem de fin de contenido (EOC). Un ítem EOC consta de dos bytes: un campo de tipo de un byte y un campo de longitud de un byte. Ambos son iguales a cero. Un ítem EOC no tiene campo de valor.

Anexo B**Asignaciones de rótulos de clase de aplicación**

(Este anexo no es parte integrante de esta Recomendación | Norma Internacional)

Las asignaciones de rótulo de clase de aplicación que se hacen en diversas cláusulas de esta Especificación se sumarian en el Cuadro B.1.

Cuadro B.1 – Rótulos de clase de aplicación

Rótulo	Tipo de datos	Referencia (subcláusula)
APLICACIÓN 0	Identificador de porción de contenido	7.8
APLICACIÓN 1	Identificador de objeto o clase	7.8
APLICACIÓN 2	Tipo de contenido	7.11
APLICACIÓN 3	Datos de caracteres	7.7
APLICACIÓN 4	Fecha y hora	7.7
APLICACIÓN 5	Identificador de estilo	7.8
APLICACIÓN 6	Nombre de persona	7.7
APLICACIÓN 7	Identificador de parte protegida	7.8

Anexo C

Sumario de identificadores de objeto

(Este anexo no es parte integrante de esta Recomendación | Norma Internacional)

Los valores de los identificadores de objeto ASN.1 se asignan en diversos puntos de esta Recomendación. Estos se sumarian en el Cuadro C.1.

Cuadro C.1 – Sumario de identificadores de objeto ASN.1

Valor del identificador de objeto	Significado	Cláusula
{ 2 8 0 0 }	Identifica el tipo de datos externos	7.1
{ 2 8 1 5 5 }	Identifica el módulo elementos de datos de intercambio	7.6
{ 2 8 1 5 6 }	Identifica el módulo descriptor de perfil de documento	7.7
{ 2 8 1 5 7 }	Identifica el módulo identificadores y expresiones	7.8
{ 2 8 1 5 8 }	Identifica el módulo descriptores de disposición	7.9
{ 2 8 1 5 9 }	Identifica el módulo descriptores lógicos	7.10
{ 2 8 1 5 10 }	Identifica el módulo descriptores de estilo	7.11
{ 2 8 1 5 11 }	Identifica el módulo listas de valores por defecto	7.12
{ 2 8 1 5 12 }	Identifica el módulo unidades de texto	7.13
{ 2 8 1 5 13 }	Identifica el módulo descriptores de parte protegida	7.15
{ 2 8 1 5 14 }	Identifica el módulo atributos de color	7.14

Anexo D

Ejemplos

(Este anexo no es parte integrante de esta Recomendación | Norma Internacional)

Los cuatro primeros ejemplos de este anexo están constituidos por trenes de datos que representan diferentes versiones del espécimen de documento del Anexo B de la Recomendación UIT-T T.412 | ISO/CEI 8613-2.

Se consideran cuatro versiones del espécimen de documento:

- Ejemplo 1: únicamente estructura de disposición específica. Este ejemplo es especificado por B.4.1, incluidos la Figura B.7 y el Cuadro B.1 de la Rec. UIT-T T.412 | ISO/CEI 8613-2.
- Ejemplo 2: únicamente estructura lógica específica. Este ejemplo es especificado por B.4.2, incluidos la Figura B.8 y los cuadros B.2 y B.3 de la Rec. UIT-T T.412 | ISO/CEI 8613-2.
- Ejemplo 3: estructura lógica específica, estructura lógica genérica y estructura de disposición genérica. Este ejemplo es especificado por B.5, incluidos las Figuras B.8, B.9 y B.10, y los Cuadros B.4, B.5, B.6 y B-7 de la Rec. UIT-T T.412 | ISO/CEI 8613-2.
- Ejemplo 4: únicamente estructura de disposición específica generada a partir de las estructuras del ejemplo 3. Este ejemplo es especificado por B.6, incluidos la Figura B.11 y el Cuadro B.8 de la Rec. UIT-T T.412 | ISO/CEI 8613-2.

Los cuatro ejemplos se presentan más adelante en D.1, D.2, D.3 y D.4. El tren de datos que constituye cada ejemplo se muestra en dos formas de notación:

- a) la notación ASN.1 para valores de datos definidos en la Rec. UIT-T X.208 | ISO/CEI 8824;
- b) la notación hexadecimal de los valores de los datos codificados, después de aplicar las reglas de codificación básicas definidas en la Rec. UIT-T X.209 | ISO/CEI 8825.

La notación ASN.1 se presenta a la izquierda y la notación hexadecimal a la derecha de cada página. El símbolo **LL** representa un campo de longitud del cual se desconoce la longitud.

NOTA – Los trenes de datos ODL equivalentes a estos ejemplos se presentan en el Anexo F.

Además, D.5 presenta un ejemplo constituido por un tren de datos que representa el perfil del espécimen de documento del Anexo C a la Rec. UIT-T T.414 | ISO/CEI 8613-4.

D.1 Ejemplo 1: Especimen de documento extraído del Anexo B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; únicamente estructura de disposición específica

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;	2E34313020536572696573202831
version 2.00",	39393329207C2049534F2F494543
	2038363133203A20313939343B20
	76657273696F6E20322E3030
	44083139393230353031
publication-date "19920501" }},	A21B
layout-object {	020100
object-type document-layout-root,	3116
descriptor-body {	410131
object-identifier "1",	8E064C6574746572
user-visible-name "Letter",	A009
subordinates {	120130120131120132
"0", "1", "2" }},	

layout-object { object-type page, descriptor-body { object-identifier "1 0", user-visible-name "Header Page", dimensions { horizontal 9920, vertical fixed 14030 }, subordinates { "0", "1", "2", "3", "4" }}, }	A232 020102 312D 4103312030 8E0B48656164657220506167 65 A408 800226C0 800236CE A00F 120130120131120132120133 120134
layout-object { object-type block, descriptor-body { object-identifier "1 0 0", user-visible-name "Logo", position { horizontal 710, vertical 730 }, dimensions { horizontal 3685, vertical fixed 2495 }, presentation-attributes { content-architecture-class { 2 8 2 7 0 }, raster-graphics-attributes { pel-transmission-density p2 }, content-portions { "0" }}, content-portion { content-portion-attributes { content-identifier-layout "1 0 0 0", raster-gr-coding-attributes { number-of-pels-per-line 737 }, content-information { /* Array of raster graphic elements for the logo */ }, }	A238 020104 3133 41053120302030 8E044C6F676F A308 800202C6 800202DA A408 80020E65 800209BF A60B 060458020700 A103 820105 A103120130 A3LL 31LL 400731203020302030 A204 800202E1 04LL A22B 020104 3126 41053120302031 8E0444617465 A308 80021540 800204FB A408 80020BF4 8002021C A103120130 A321 3109 400731203020312030 0414434553534F4E2C.. ..31393835 A230 020104 312B 41053120302032 8E09416464726573736565 A308 80020451 800210D6 A408 80021199 8002021C A103120130
layout-object { object-type block, descriptor-body { object-identifier "1 0 1", user-visible-name "Date", position { horizontal 5440, vertical 1275 }, dimensions { horizontal 3060, vertical fixed 540 }, content-portions { "0" }}, content-portion { content-portion-attributes { content-identifier-layout "1 0 1 0", content-information { "CESSON, 26 JUNE 1985" }, }	
layout-object { object-type block, descriptor-body { object-identifier "1 0 2", user-visible-name "Addressee", position { horizontal 1105, vertical 4310 }, dimensions { horizontal 4505, vertical fixed 540 }, content-portions { "0" }}, }	

content-portion {	A32C
content-portion-attributes {	3109
content-identifier-layout "1 0 2 0" },	400731203020322030
content-information { "To members of ISO/ TC97/SC18/WG3" },	041F546F206D656D626572 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" },	400731203020332030
content-information { "SUBJECT: PROPOSED EXAMPLE TO CLARIFY THE DOCUMENT \n ARCHITECTURE MODEL" },	04LL5456424A4543553A.. ..... ..... .....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" },	400731203020342030
content-information { /* Formatted string of SUMMARY-*/ },	04LL53554D4D4152415259..
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" }},	12013012013112013212013312
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" },	400731203120302030
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" },	400731203120312030
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" },	400731203120322030
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" },	400731203120332030
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" },	400731203120342030
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" }},	A00F120130120131120132120133
	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" },	400731203230302030
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" },	400731203220312030
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" },	400731203220322030
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",	400731203220332030
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" },	400731203220342030
content-information { "Miss Aude HEA\n	04LL4D697373.....
Document Architect" } }	.....

D.2 Ejemplo 2: Espécimen de documento extraído del Anexo B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; únicamente estructura lógica específica

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 { style-identifier "5 4", presentation-attributes { character-attributes { first-line-offset 1417, alignment justified, line-spacing 400 }}, }	A714 4503352034 A30D A00B 97020589 880103 87020190
logical-object { object-type document-logical-root, descriptor-body { object-identifier "3", user-visible-name "Letter", subordinates { "0", "1" }, default-value-lists { basic-logical-attributes { presentation-attributes { content-architecture-class { 2 8 2 6 1 } } } }}, }	A624 020100 311F 410133 8E064C6574746572 A006120130120131 A70A A608 A306 060458020601
logical-object { object-type composite-logical, descriptor-body { object-identifier "3 0", user-visible-name "Header", subordinates { "0", "1", "2", "3" }}, }	A620 020101 311B 4103332030 8E06486561646572 A00C120130120131120132120133
logical-object { object-type basic-logical, descriptor-body { object-identifier "3 0 0", user-visible-name "Date", content-portions { "0" }}, }	A617 020102 3112 41053320302030 8E0444617465 A103120130
logical-object { object-type basic-logical, descriptor-body { object-identifier "3 0 1", user-visible-name "Addressee", content-portions { "0" }}, }	A61C 020102 3117 41053320302031 8E09416464726573736565 A103120130
logical-object { object-type basic-logical, descriptor-body { object-identifier "3 0 2", user-visible-name "Subject", presentation-style "5 0", content-portions { "0" }}, }	A61F 020102 311A 41053320302032 8E075375626A656374 9103352030 A103120130
logical-object { object-type composite-logical, descriptor-body { object-identifier "3 0 3", user-visible-name "Summary", subordinates { "0" }}, }	A61A 020101 3115 41053320302033 8E0753756D6D617279 A003120130
logical-object { object-type basic-logical, descriptor-body { object-identifier "3 0 3 0", user-visible-name "Summary-paragraph", } presentation-style "5 1", content-portions { "0" }}, }	A62B 020102 3126 410733203020332030 8E1153756D6D617279 2D706172616772617068 9103352031 A103120130
logical-object { object-type composite-logical, descriptor-body { object-identifier "3 1", user-visible-name "Body", subordinates { "0", "1", "2", "3", "4", "5", "6" }}, }	A627 020101 3122 4103332031 8E04426F6479 A0151201301201311201321201 120134120135120136

logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 0", user-visible-name "Paragraph A", presentation-style "5 2", content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 1", user-visible-name "Paragraph B", presentation-style "5 2", content-portions { "0" }}, logical-object { object-type composite-logical, descriptor-body { object-identifier "3 1 2", user-visible-name "Figure", subordinates { "0", "1" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 2 0", user-visible-name "Drawing", presentation-attributes { content-architecture-class {2 8 2 8 0 }}, content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 2 1", user-visible-name "Caption", content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 3", user-visible-name "Paragraph C", presentation-style "5 2", content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 4", user-visible-name "Paragraph D", presentation-style "5 2", content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 5", user-visible-name "Ending", presentation-style "5 3", content-portions { "0" }}, logical-object { object-type composite-logical, descriptor-body { object-identifier "3 1 6", user-visible-name "Signature and Name", subordinates { "0", "1" }},	A623 020102 311E 41053320312030 8E0B5061726167726170682041 9103352032 A103120130 A623 020102 311E 41053320312031 8E0B5061726167726170682042 9103352032 A103120130 A61C 020101 3117 41053320322032 8E06466967757265 A006120130120131 A624 020102 311F 410733203120322030 8E0744726177696E67 A606 060458020800 A103120130 A61C 020102 3117 410733203120322031 8E0743617074696F6E A103120130 A623 020102 311E 41053320312033 8E0B5061726167726170682043 9103352032 A103120130 A623 020102 311E 41053320312034 8E0B5061726167726170682044 9103352032 A103120130 A61E 020102 3119 41053320312035 8E06456E64696E67 9103352033 A103120130 A628 020101 3123 41053320312036 8E125369676E617475726520 616E64204E616D65 A006120130120131
--	--

logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 6 0", user-visible-name "Signature", presentation-attributes { content-architecture-class {2 8 2 7 1 }}, content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 6 1", user-visible-name "Name", presentation-style "5 0", content-portions { "0" }}, content-portion { content-portion-attributes { content-identifier-logical "3 0 0 0" }, content-information { "CESSON, 26 JUNE 1985" }}, content-portion { content-portion-attributes { content-identifier-logical "3 0 1 0" }, content-information { "To members of TC97/SC18/WG3" }}, content-portion { content-portion-attributes { content-identifier-logical "3 0 2 0" }, content-information { "SUBJECT: PROPOSED EXAMPLE TO CLARIFY THE DOCUMENT ARCHITECTURE MODEL" }}, content-portion { content-portion-attributes { content-identifier-logical "3 0 3 0 0" }, content-information { /* Unformatted string of SUMMARY-*/ }}, content-portion { content-portion-attributes { content-identifier-logical "3 1 0 0" }, content-information { /* Unformatted string of A's */ }}, content-portion { content-portion-attributes { content-identifier-logical "3 1 1 0" }, content-information { /* Unformatted string of B's */ }}, content-portion { content-portion-attributes { content-identifier-logical "3 1 2 0 0" }, content-information { /* Ordered set of geometric-graphics content elements for the diagram */ }}, content-portion { content-portion-attributes { content-identifier-logical "3 1 2 1 0" }, content-information { /* Unformatted string for the caption */ }}, content-portion { content-portion-attributes { content-identifier-logical "3 1 3 0" }, content-information { /* Unformatted string of C's */ }},	A626 020102 3121 410733203120362030 8E095369676E6174757265 A606 060458020701 A103120130 A61E 020102 3119 410733203120362031 8E044E616D65 9103352030 A103120130 A321 3109 840733203020302030 0414434553534F4E2C 31393835 A32C 3109 840733203020312030 041F546F206D656D62657273.. A3LL 3109 840733203020322030 04LL5456424A4543553A.. 4D4F44454C A3LL 310B 8409332030203320302030 04LL53554D4D415259 A3LL 3109 840733203120302030 04LL414141 A3LL 3109 840733203120312030 04LL4242424242..... A3LL 310B 8409332031203220302030 04LL A3LL 310B 8409332031203220312030 04LL63617074696F6E..... A3LL 3109 840733203120332030 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",	8409332031203620302030
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" },	8409332031203620312030
content-information { "Miss Aude HEA Document	04LL4D697373.....
Architect" }	

D.3 Ejemplo 3: Espécimen de documento extraído del Anexo B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; estructura de disposición genérica, estructura lógica genérica y estructura lógica específica

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
"CCITT Rec. T.410 Series (1993) | ISO/IEC 8613:1994;	2E34313020536572696573202831
version 2.00",	39393329207C2049534F2F494543
	2038363133203A20313939343B20
	76657273696F6E20322E3030
publication-date "19920501" }},	44083139393230353031
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",	8E09416464726573736565
position {	
fixed-position {	A308
horizontal 1105,	80020451
vertical 4310 }},	800210D6
dimensions {	A408
horizontal fixed 5395,	80021513
vertical fixed 1415 }},	80020587

layout-object-class { object-type frame, descriptor-body { object-class-identifier "0 0 3", user-visible-name "Subject", position { fixed-position { horizontal 1105, vertical 6660 }}, dimensions { horizontal fixed 7200, vertical fixed 1785 }}, }	A129 020103 3124 41053020302033 8E075375626A656374
layout-object-class { object-type frame, descriptor-body { object-class-identifier "0 0 4", user-visible-name "Summary", position { fixed-position { horizontal 2180, vertical 9695 }}, dimensions { horizontal fixed 6290, vertical fixed 3570 }}, }	A308 80020451 80021A04 A408 80021C20 800206F9
layout-object-class { object-type page, descriptor-body { object-class-identifier "0 1", user-visible-name "Body", dimensions { horizontal fixed 9920, vertical fixed 14030 }, generator-for-subordinates { single-term-construction required-construction-factor object-class-identifier "0 1 0" }}, }	A129 020103 3124 41053020302034 8E0753756D6D617279
layout-object-class { object-type frame, descriptor-body { object-class-identifier "0 1 0", user-visible-name "Body", position { fixed-position { horizontal 565, vertical 565 }}, dimensions { horizontal fixed 8815, vertical fixed 12870 }}, }	A308 80020884 800225DF A408 80021892 80020DF2
logical-object-class { object-type document-logical-root, descriptor-body { object-class-identifier "2", user-visible-name "Letter", generator-for-subordinates { sequence-construction required-construction-factor object-class-identifier "2 0", required-construction-factor object-class-identifier "2 1" }}, }	A127 020102 3122 4103302031 8E04426F6479 A408 800226C0 800236CE A00B A309 A007
logical-object-class { object-type composite-logical, descriptor-body { object-class-identifier "2 0", user-visible-name "Header", }	41053020312030 A126 020103 3121 41053020312030 8E04426F6479
	A308 80020235 80020235 A408 8002226F 80023246
	A522 020100 311D 410132 8E064C6574746572
	A010 A00E A005 4103322030 A005
	4103322031 A53A 020101 3135 4103322030 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",	8E09416464726573736565
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",	410732203120302030
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",	410732203120302031
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 { content-architecture-class { 2 8 2 6 1 } }},	A606 060458020601
logical-object-class { object-type composite-logical, descriptor-body { object-class-identifier "2 1 3", user-visible-name "Signature-and-Name",	A53A 020101 3135 41053220312033 8E125369676E61747572652D616E 642D4E616D65
generator-for-subordinates { sequence-construction required-construction-factor object-class-identifier "2 1 3 0", required-construction-factor object-class-identifier "2 1 3 1" } }},	A018 A016 A009 410732203120332030 A009
logical-object-class { object-type basic-logical, descriptor-body { object-class-identifier "2 1 3 0", user-visible-name "Signature", presentation-attributes { content-architecture-class { 2 8 2 7 1 } }, layout-style "4 11" } },	410732203120332031 A527 020102 3122 410732203120332030 8E095369676E6174757265 A606 060458020701
logical-object-class { object-type basic-logical, descriptor-body { object-class-identifier "2 1 3 1", user-visible-name "Name", layout-style "4 12", presentation-style "5 0", presentation-attributes { content-architecture-class { 2 8 2 6 1 } }},	930434203131 A527 020101 3122 410732203120332031 8E044E616D65 930434203132 9103352030 A606 060458020601
content-portion { content-portion-attributes { content-identifier-layout "0 0 0 0 0", raster-gr-coding-attributes { number-of-pels-per-line 737 } }, content-information { /* Array of raster-graphics content elements for the logo */ },	A3LL 3111 4007302030203020302030 A204 800202E1
content-portion { content-portion-attributes { content-identifier-logical "2 1 2 0" }, content-information { /* Unformatted string of ending */ },	04LL A3LL 3109 840732203120322030 04LL
presentation-style { style-identifier "5 0", presentation-attributes { character-attributes { line-spacing 300 } },	A70D 4503352030 A306 A004 8702012C
presentation-style { style-identifier "5 1", presentation-attributes { character-attributes { first-line-offset 1417, alignment justified } },	A710 4503352031 A309 A007 97020589 880103
presentation-style { style-identifier "5 3", presentation-attributes { character-attributes { first-line-offset 1417, alignment justified, line-spacing 300 } },	A714 4503352033 A30D A00B 97020589 880103 8702012C

presentation-style { style-identifier "5 4", presentation-attributes { character-attributes { first-line-offset 1020, alignment justified, line-spacing 300 }}, } layout-style { style-identifier "4 0", layout-directives { layout-object-class "0 0 1", offset { trailing 710, right-hand 395 }}, } layout-style { style-identifier "4 1", layout-directives { layout-object-class "0 0 2" }, } layout-style { style-identifier "4 2", layout-directives { layout-object-class "0 0 3" }, } layout-style { style-identifier "4 3", layout-directives { layout-object-class "0 0 4" }, } layout-style { style-identifier "4 4", layout-directives { offset { left-hand 705 }}, } layout-style { style-identifier "4 5", layout-directives { new-layout-object { to-layout-object-class "0 1" }}, } layout-style { style-identifier "4 6", layout-directives { indivisibility { to-layout-object-class "0 1 0" }}, } layout-style { style-identifier "4 7", layout-directives { offset { right-hand 1615, left-hand 2155 }, separation { trailing 905 }}, } layout-style { style-identifier "4 8", layout-directives { offset { right-hand 1985, left-hand 2860 }, separation { trailing 200 }}, } layout-style { style-identifier "4 9", layout-directives { offset { trailing 540, leading 280, right-hand 540, left-hand 340 }, separation { trailing 880 }}, } }	A714 4503352034 A30D A00B 970203FC 880103 8702012C A818 4503342030 A411 8B053020302031 A408 820202C6 8002018B A80E 4503342031 A407 8B053020302032 A80E 4503342032 A407 8B053020302033 A80E 4503342033 A407 8B053020302034 A80D 4503342034 A406 A404 810202C1 A80C 4503342035 A405 8703302031 A80E 4503342036 A407 80053020312030 A817 4503342037 A410 A408 8002064F 8102086B A304 81020389 A817 4503342038 A410 A408 800207C1 81020B2C A304 810200C8 A81F 4503342039 A418 A410 8202021C 83020118 8002021C 81020154 A304 81020370
--	--

layout-style { style-identifier "4 10", layout-directives { offset { right-hand 1420, left-hand 535 }, separation { trailing 880 }}, layout-style { style-identifier "4 11", layout-directives { offset { right-hand 2695, left-hand 535 }, separation { trailing 765 }}, layout-style { style-identifier "4 12", layout-directives { offset { right-hand 5385, left-hand 910 }}, logical-object { object-type document-logical-root, descriptor-body { object-identifier "3", object-class "2", user-visible-name "Letter", subordinates { "0", "1" }}, logical-object { object-type composite-logical, descriptor-body { object-identifier "3 0", object-class "2 0", user-visible-name "Header", subordinates { "0", "1", "2", "3" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 0 0", object-class "2 0 0", user-visible-name "Date", content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 0 1", object-class "2 0 1", user-visible-name "Addressee", content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 0 2", object-class "2 0 2", user-visible-name "Subject", content-portions { "0" }}, logical-object { object-type composite-logical, descriptor-body { object-identifier "3 0 3", object-class "2 0 3", user-visible-name "Summary", subordinates { "0" }},	A818 450434203130 A410 A408 8002058C 81020217 A304 81020370 A818 450434203131 A410 A408 80020A87 81020217 A304 810202FD A812 450434203132 A40A A408 80021509 8102038E A61B 020100 3116 410133 820132 8E064C6574746572 A006120130120131 A625 020101 3120 4103332030 8203322030 8E06486561646572 A00C120130120131120132120133 A61E 020102 3119 41053320302030 82053220302030 8E0444617465 A103120130 A623 020102 311E 41053320302031 82053220302031 8E09416464726573736565 A103120130 A621 020102 311C 41053320302032 82053220302032 8E075375626A656374 A103120130 A621 020101 311C 41053320302033 82053220302033 8E0753756D6D617279 A003120130
---	--

logical-object { object-type basic-logical, descriptor-body { object-identifier "3 0 3 0", object-class "2 0 3 1", user-visible-name "Summary-paragraph", content-portions { "0" }}, logical-object { object-type composite-logical, descriptor-body { object-identifier "3 1", object-class "2 1", user-visible-name "Body", subordinates { "0", "1", "2", "3", "4", "5", "6" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 0", object-class "2 1 1", user-visible-name "Paragraph A", content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 1", object-class "2 1 1", user-visible-name "Paragraph B", presentation-attributes { character-attributes { line-spacing 400 }}, content-portions { "0" }}, logical-object { object-type composite-logical, descriptor-body { object-identifier "3 1 2", object-class "2 1 0", user-visible-name "Figure", subordinates { "0", "1" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 2 0", object-class "2 1 0 0", user-visible-name "Drawing", content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 2 1", object-class "2 1 0 1", user-visible-name "Caption", content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 3", object-class "2 1 1", user-visible-name "Paragraph C", content-portions { "0" }}, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 4", object-class "2 1 1", user-visible-name "Paragraph D", content-portions { "0" }},	A62F 020102 312A 410733203020332030 820732203020332031 8E1153756D6D617279 2D706172616772617068 A103120130 A62C 020101 3127 4103332031 8203322031 8E04426F6479 A015120130120131120132120133 120134120135120136 A625 020102 3120 41053320312030 82053220312031 8E0B5061726167726170682041 A103120130 A62D 020102 3128 41053320312031 82053220312031 8E0B5061726167726170682042 A606 A004 87020190 A103120130 A623 020101 311E 41053320312032 82053220312030 8E06466967757265 A006120130120131 A625 020102 3120 410733203120322030 820732203120302030 8E0744726177696E67 A103120130 A625 020102 3120 410733203120322031 820732203120302031 8E0743617074696F6E A103120130 A625 020102 3120 41053320312033 82053220312031 8E0B5061726167726170682043 A103120130 A625 020102 3120 41053320312034 82053220312031 8E0B5061726167726170682044 A103120130
---	--

logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 5", object-class "2 1 2", user-visible-name "Ending" }, logical-object { object-type composite-logical, descriptor-body { object-identifier "3 1 6", object-class "2 1 3", user-visible-name "Signature and Name", subordinates { "0", "1" } }, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 6 0", object-class "2 1 3 0", user-visible-name "Signature", content-portions { "0" } }, logical-object { object-type basic-logical, descriptor-body { object-identifier "3 1 6 1", object-class "2 1 3 1", user-visible-name "Name", content-portions { "0" } }, content-portion { content-portion-attributes { content-identifier-logical "3 0 0 0" }, content-information { "CESSON, 26 JUNE 1985" }, content-portion { content-portion-attributes { content-identifier-logical "3 0 1 0" }, content-information { "To members of TC97 /SC18 /WG3" }, content-portion { content-portion-attributes { content-identifier-logical "3 0 2 0" }, content-information { "SUBJECT: PROPOSED EXAMPLE TO CLARIFY THE DOCUMENT ARCHITECTURE MODEL" }, content-portion { content-portion-attributes { content-identifier-logical "3 0 3 0 0" }, content-information { /* Unformatted string of SUMMARY-*/ }, content-portion { content-portion-attributes { content-identifier-logical "3 1 0 0" }, content-information { /* Unformatted string of A's */ }, content-portion { content-portion-attributes { content-identifier-logical "3 1 1 0" }, content-information { /* Unformatted string of B's */ }, content-portion { content-portion-attributes { content-identifier-logical "3 1 2 0 0" }, content-information { /* Ordered set of geometric-graphics content elements for the diagram */ },	A61B 020102 3116 41053320312035 82053220312032 8E06456E64696E67 A62F 020101 312A 41053320312036 82053220312033 8E125369676E617475726520 616E64204E616D65 A006120130120131 A627 020102 3122 410733203120362030 820732203120332030 8E095369676E6174757265 A103120130 A622 020102 311D 410733203120362031 820732203120332031 8E044E616D65 A103120130 A321 3109 840733203020302030 0414434553534F4E2C 31393835 A32C 3109 840733203020312030 041F546F206D656D62657273.. ..4733 A3LL 3109 840733203020322030 04LL5456424A4543553A.. .....4D4F44454C A3LL 310B 8409332030203320302030 04LL53554D4D415259 A3LL 3109 840733203120302030 04LL414141 A3LL 3109 840733203120312030 04LL42424242 A3LL 310B 8409332031203220302030 04LL
--	---

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 Ejemplo 4: Espécimen de documento extraído del Anexo B de la Rec. UIT-T T.412 | ISO/CEI 8613-2; únicamente estructura de disposición específica

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

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",      410731203020312030
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", 8E09416464726573736565
subordinates { "0" }}, A003120130
layout-object { A225
object-type block,      020104
descriptor-body {      3120
object-identifier "1 0 2 0",      410731203020322030
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",      410731203020332030
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",      410731203020342030
dimensions { A408
horizontal 5585,      800215D1

```

```

    vertical fixed 2325 },80020915
    presentation-style "5 1",      9103352031
    content-portions { "0" },      A103120130
    presentation-attributes {
        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" } }}, A00F1201301201311201321201
                                                                    33120134
layout-object {    A234
    object-type block,      020104
    descriptor-body {      312F
        object-identifier "1 1 0 0", 410731203120302030
        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 {
            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", 410731203120302031
        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 {
            character-attributes {
                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", 410731203120302032
        position {    A308
            horizontal 1615,      8002064F
            vertical 6460 },      8002193C
        dimensions {    A408
            horizontal 5045,      800213B5
            vertical fixed 4140 },8002102C
        presentation-attributes {
            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", 410731203120302033
  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", 410731203120302034
    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" } }, A00F120130120131120132120133

```

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 } }},

```

A234

```

layout-object {
  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 {
  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 {
      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 {
      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",    410731203220302034
    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 {
      content-architecture-class    060458020602
      { 2 8 2 6 2 } }},
content-portion { A32C
  content-portion-attributes { 3114
    content-identifier-layout "1 0 1 0 0", 4009312030203120302030
    content-identifier-logical "3 0 0 0" }, 840733203020302030
    content-information { "CESSON, 26 JUNE 1985" },..... 041443455353
    ..31393835
content-portion { A337
  content-portion-attributes { 3114
    content-identifier-layout "1 0 2 0 0", 4009312030203220302030
    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", 4009312030203320302030
    content-identifier-logical "3 0 2 0" }, 840733203020322030
    content-information { "SUBJECT: ROPOSED..... 04LL5456424
      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",      4009312030203420302030
    content-identifier-logical "3 0 3 0 0" },      8409332030203320302030
  content-information { /* Formatted processable string of .....04LL53554D4D415259
    SUMMARY- */ },
content-portion { A3LL
  content-portion-attributes {      3114
    content-identifier-layout "1 1 0 0 0",      4009312031203020302030
    content-identifier-logical "3 1 0 0" },      840733203120302030
  content-information { /* Formatted processable string of ..... 04LL414141
    A's */ },
content-portion { A3LL
  content-portion-attributes {      3114
    content-identifier-layout "1 1 0 1 0",      4009312031203020312030
    content-identifier-logical "3 1 1 0" },      840733203120312030
  content-information { /* Formatted processable string of ..... 04LL424242
    B's */ },
content-portion { A3LL
  content-portion-attributes {      3116
    content-identifier-layout "1 1 0 2 0",      4009312031203020322030
    content-identifier-logical "3 1 2 0 0" },      8409332031203220302030
  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" },      8409332031203220312030
  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" },      840733203120332030
  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" },      840733203120332031
  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" },      840733203120342030
  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" },      8409332031203620302030
    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" },  8409332031203620312030
content-information { "Miss Aude HEA <SOS>\n<ST> ..... 04LL4D697373
  Document Architect" }}

```

D.5 Ejemplo 5: Perfil del espécimen de documento extraído del Anexo C de la Rec. UIT-T T.414 | ISO/CEI 8613-4; únicamente perfil de documento

```

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; 2E34313020536572696573202831
    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", 80083139383830363035
 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" }, 86083139383830363035

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" }, 8106417564697473
    { personal-name { 310BA009
        surname "Duck", 80044475636B
        initials "D" }}}
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 430F4D61792066696E61
            "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
    47726F7570
430D46696E616E636520
47726F7570

```

Anexo E

Lenguaje de documento abierto (ODL, open document language)

(Este anexo es parte integrante de esta Norma Internacional)

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	-- <i>composite logical object</i>
dvblo	-- <i>basic logical object</i>
dvpages	-- <i>page set</i>
dvpage	-- <i>page (composite)</i>
dvbpage	-- <i>page (basic)</i>
dvframe	-- <i>frame</i>
dvblock	-- <i>block</i>
dvcf	-- <i>character formatted content architecture</i>
dvcfp	-- <i>character formatted processable content architecture</i>
dvcp	-- <i>character processable content architecture</i>
dvgif	-- <i>geometric graphics formatted processable content architecture</i>
dvrf	-- <i>raster graphics formatted content architecture</i>
dvrfp	-- <i>raster graphics formatted processable content architecture</i>

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

```

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:

apcmnt 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:

ODLdvnrm ENTITY #IMPLIED

where “**ODLdvnrm**” 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 --
    "permcats" 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(myldcat)

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(myiscat)

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 % ODAAdlg 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	% ODA	delg "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 % ODAly 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 --
           %ODApas;     %ODAdim; %ODAbor; %ODAtan; %ODAcot; -- layout attributes --
           %ODAcay;     %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 --
           %ODApas;     %ODAdim; %ODAbor; %ODAtan; %ODAcot; -- layout attributes --
           %ODAcay; %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 --
                %ODApas;    %ODAdim; %ODAbor; %ODAtan; %ODAcot; -- layout attributes --
                %ODAcay; %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 --
                %ODApas;    %ODAdim; %ODAbor; %ODAtan; %ODAcot; -- layout attributes --
                %ODAcay;    %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 --
                %ODApas;    %ODAdim; %ODAbor; %ODAtan; %ODAcot; -- layout attributes --
                %ODAcay;    %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      % ODAdey "cf | cfp | gfp | rf | rfp" -- layout data element types -- >
<!ENTITY      % ODAvly -- default value lists for layout data element types --
                "dvcf ENTITY #IMPLIED dvcp ENTITY #IMPLIED
                dvgrp ENTITY #IMPLIED dvrf ENTITY #IMPLIED dvrrp 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 % ODAcly PUBLIC "ISO/IEC 8613-5:1993//TEXT
    ODA Data Elements: Layout//EN">
%ODAcly;

<!ELEMENT dlar o o ((pages | page)+ | bpage+) -- document layout root -->
<!ELEMENT pages -- (pages | page)+ -- page set -->
<!ELEMENT page -- o (frame+ | (%ODAcly);+) -- page (composite) -->
<!ELEMENT frame -- (frame+ | (%ODAcly);+) -- frame -->
<!ELEMENT bpage -- o (%ODAcly); -- 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 --
    %ODAcly; -- 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 --
    %ODAcly; -- 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 --
    %ODAcly; -- data elements: default value lists --
    %ODAdim; -- dimensions --
    %ODAlct; -- layout stream categories --
    %ODAlsct; -- layout stream sub-categories --
    %ODAttran; -- transparency --
    %ODAccl; -- colour --
    %ODAppos; -- page position --
    %ODAmid; -- 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 --
    %ODAcly; -- data elements: default value lists --
    %ODAdim; -- dimensions --
    %ODAbal; -- balance --

```

		%ODAlct;			-- layout stream categories --
		%ODAlsct;			-- layout stream sub-categories --
		%ODAiord;			-- imaging order --
		%ODAttran;			-- transparency --
		%ODAcol;			-- colour --
		%ODAppos;			-- page position --
		%ODAmcd;			-- medium type --
		%ODAcly;			-- 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 --
		%ODAttran;			-- transparency --
		%ODAcol;			-- colour --
		%ODAcly;			-- colour of layout object --
		%ODAobct;			-- object colour table --
		enciph	CDATA	#IMPLIED	-- enciphered --
		sealed	CDATA	#IMPLIED	-- sealed -->

E.11.3.3 Link process definition

```

<! -- 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 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
                dlors dlars
                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?, doctype?,
    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, givenname?, initials?, genqual?)>
<!ELEMENT  (surname, givenname, initials, genqual)
                        -- o (#PCDATA)>

```

Anexo F

Ejemplos de representaciones de lenguaje de documento abierto

(Este anexo no es parte integrante de esta Norma Internacional)

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 I SYSTEM "Reference to layout structure DTD">

<!-- Document instance representing the specific layout structure -->
<!-- Some markup minimization is used, but more is possible -->
<I>
<headerpg>
<logofram><logo content=ourlogo>
<date><cf pos="395 710" dim="3060 540">
CESSON, 26 JUNE 1985
<adresse><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 cloff=1417>
/* Formatted string of SUMMARY */
<bodypage><bodyfram>
<cf pos="540 540" dim="7935 1785" calign=j cloff=1417 clinespc=300>
/* Formatted string of A's */
<cf pos="540 3205" dim="7935 1785" calign=j cloff=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 cloff=1417 clinespc=300>
/* Formatted string of C's */
<bodypage><bodyfram>
<cf pos="540 540" dim="7935 1275" calign=j cloff=1417 clinespc=300>
/* Formatted string of C's */
<cf pos="540 2695" dim="7935 1615" calign=j cloff=1417 clinespc=300>
/* Formatted string of D's */
<cf pos="1820 5190" dim="6860 2155" calign=j cloff=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
</I>

```

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 “(1)”, 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 1 SYSTEM "Reference to layout structure DTD" [
  <!-- Entity declarations for specific layout content portions -->
  <!ENTITY endcfp CDATA "/* Formatted processable string of ENDING */ ">
]>
<!LINKTYPE ODAlay letter 1[
  <!ENTITY % laylpd SYSTEM "Reference to layout LPD" > %laylpd;
  <!-- Link rule for exceptional paragraph in the body -->
  <!IDLINK ps2 para #USELINK set 4 #IMPLIED>
  <ILINK 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> <(1)l>
<date> <(1)cfp pos="395 710" dim="3060 540">
CESSON, 26 JUNE 1985
<adresse> <(1)cfp dim="4505 540">
To members of ISO/TC97/SC18/WG3
<subject> <(1)cfp dim="7200 905" clinespc=300>
SUBJECT: PROPOSED EXAMPLE TO CLARIFY THE DOCUMENT ARCHITECTURE MODEL
<summary>
<(1)cfp dim="5585 2325" calign=j cfloff=1417>
/* Formatted processable string of SUMMARY */
<(letter)body>
<(1)bodypage>
<(letter)para>
<(1)cfp pos="540 540" dim="7935 1785" calign=j cfloff=1417 clinespc=300 >
/* Formatted processable string of A's */
<(letter)para id=ps2>
<(1)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>
<(1)gfp pos="1615 5895" dim="5045 4140" content=diagram>
<(letter)caption>
<(1)cfp pos="1985 10235" dim="3970 370">
/* Formatted processable string of caption */
</(letter)figure>
<(letter)para>
<(1)cfp pos="540 11485" dim="7935 1075" calign=j cfloff=1417 clinespc=300 >
/* Formatted processable string of C's */
<(1)bodypage>
```

```

<(1)cfp pos="540 540" dim="7935 1275" calign=j cfloff=1417 clinespc=300 >
/* Formatted processable string of C's */
<(letter)para>
<(1)cfp pos="540 2695" dim="7935 1615" calign=j cfloff=1417 clinespc=300 >
/* Formatted processable string of D's */
<(letter)ending>
<(1)cfp pos="1820 5190" dim="6860 2155" calign=j cfloff=1020 clinespc=300
  content=endcfp>
<(letter)sig-name>
<(letter)rfp content=signatur>
<(1)rfp pos="2695 8110" dim="5585 2495" content=signatur>
<(letter)name><(1)cfp pos="5385 10605" dim="2520 905" clinespc=300>
Miss Aude HEA Document Architect
</(1)!></(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      % ODAAdlg 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, adresse, 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 | adresse | 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    % ODAcly 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, adresse, 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 | adresse | subject | summary)
                -- o (cf | cfp)>
<!-- ATTLIST date objtype NAME #FIXED frame -- object type --
                pos CDATA "5045 565" -- position --
                dim CDATA "3970 1615" -- dimensions -->
<!-- ATTLIST adresse 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 | adresse | 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
      adresse      adresse
      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
  <ODAvr 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<givenname>Reginald<initials>P
  <owner><organ>
  Widget Inc.,
  4511 McKenzie,
  Atlanta, Georgia, USA.

```

```

<author><organ>Dewey, Cheatam & Howe CPA
    <!-- Other User Information -->
<userinfo>
<copyright>
<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<givenname>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>

```

Anexo G

Utilización del tipo codificación distinguida o canónica

(Este anexo no es parte integrante de esta Norma Internacional)

G.1 El problema a resolver

Las reglas de codificación distinguida y canónica están pensadas para ayudar en la provisión de mecanismos que aseguran la integridad utilizando autenticadores del material a transferir.

El concepto de autenticador está suficientemente claro, e implica tomar el patrón de bits a transferir, aplicarle a alguna forma de función de desmenuzamiento para reducirlo a unos cuantos octetos, encriptar estos octetos para autenticar el autenticador y transmitir a continuación el autenticador con el material original (que se envía en claro). A su recepción, se calcula de nuevo el autenticador a partir del texto claro recibido y se compara con el autenticador recibido. Si son iguales, el texto no ha sido manipulado; en caso contrario sí.

Este simple concepto resulta más difícil cuando se utiliza el modelo ISO y, en particular, la capa de presentación.

Aparecen dos problemas, el primero de los cuales es una cuestión de modelación y de la denominada independencia de capas; el segundo se refiere al empleo de relevos de capas de aplicación, tal como se utilizan en las Recomendaciones de la serie UIT-T X.400 | ISO/CEI 10021.

En el tema de la modelación, la función de desmenuzamiento y el algoritmo de encriptación forman parte de la operación de aplicación, pero la aplicación no conoce ni controla la codificación real que utilizará la capa de presentación. Análogamente en la recepción, la decodificación y por tanto la destrucción de la cadena de bits, es una cuestión de la capa de presentación. Se han propuesto tres soluciones a este problema:

- a) desechar el empleo de los octetos reales producidos por la capa de presentación para uso en el autenticador (los expertos en presentación y ULA han adoptado el criterio actual);
- b) poner los mecanismos de desmenuzamiento y del autenticador en la propia capa de presentación (esta solución fue rechazada como parte de la amplia cuestión de poner el soporte para la encriptación en ASN.1; en el momento del rechazo se arguyó que el trabajo sobre seguridad no estaba maduro, y que no se quería prejuzgar el posible resultado);
- c) modelar una interconexión compleja con la capa de presentación en donde, en transmisión, se presenta un valor para codificación, se produce la codificación y se devuelve a la capa de aplicación que calcula el autenticador, y a continuación se transmite el conjunto; en recepción, además de producir el valor abstracto, las codificaciones recibidas se pasan a la capa de aplicación para verificar el autenticador (este modelo fue rechazado por el grupo ULA);
- d) efectuar la codificación en su totalidad en la capa de aplicación, sin utilizar los servicios de presentación para negociar la sintaxis de transferencia (en realidad esto es un rechazo del modelo de referencia OSI, y no sería aceptable como solución generalizada).

Podrá argüirse que la falta de acuerdo sobre un modelo para describir un proceso aparentemente sencillo y practicable (producción de la codificación y a continuación del autenticador y transmisión de ambos, comprobación con respecto al autenticador en la recepción) no es algo que deba aceptarse como una posición a largo plazo. Tal observación tendría mucha validez si no fuera por el segundo problema de los relevos de aplicación y si no hubiera otras soluciones practicables. (En este documento se indica una solución alternativa que se utiliza en la Rec. UIT-T X.509 | ISO/CEI 9594-8 y que se considera viable y libre de los problemas de modelación y de los sistemas de relevo.)

El segundo problema consiste en que, si está presente un relevo de aplicación, la sintaxis de transferencia utilizada para la segunda transmisión puede diferir de la acordada para la primera (por ejemplo, el uso de reglas de codificación por paquetes en una de ellas y reglas de codificación básica en la otra). Esto derrotaría al autenticador, a menos que se abriera éste y se recalculara en el relevo, lo que implicaría intercambios de seguridad en el relevo, siendo así que lo que se requiere es seguridad de extremo a extremo.

NOTA – Ha habido sugerencias de que podría desearse transmitir un contexto de presentación como «no decodificar/recodificar en los relevos de aplicación», pero esto también plantea problemas de modelación y de otros tipos.

Por eso, estamos obligados a intentar trabajar con un modelo en el que la capa de presentación (junto con cualesquiera relevo de aplicación intermedios) permite la transferencia de la sintaxis abstracta y de la semántica de información, pero no garantiza que la codificación real del patrón de bits (la sintaxis de transferencia) se mantenga de extremo a extremo.

El desafío consiste por tanto en proporcionar un mecanismo autenticador que pueda actuar sobre el tipo de datos abstractos más bien que sobre la cadena de bits transmitida.

El grupo Directorios fue el primero que intentó dar una solución a este problema, y es su modelo el que se describe a continuación.

G.2 Planteamiento para llegar a una solución

El texto que sigue describe primero un modelo conceptual de los que se está haciendo, seguido de una optimización de la implementación, que elimina la doble codificación/decodificación que conlleva el modelo conceptual.

El modelo conceptual funciona como sigue:

- a) El emisor convierte en la capa de aplicación el valor de sintaxis abstracta en una cadena de bits, utilizando las reglas de codificación distinguida o canónica, y genera el autenticador a partir de dicha cadena de bits, que se inserta añadido al valor de la sintaxis abstracta, y ambos valores se transmiten utilizando mecanismos de capa de presentación normales, y cualquier sintaxis de transferencia. Conceptualmente, el emisor codifica dos veces: una para el autenticador (utilizando las reglas de codificación distinguida o canónica) en la capa de aplicación y otra para la transferencia efectiva (utilizando la sintaxis de transferencia negociada) en la capa de presentación.

NOTA – La propiedad importación de la cadena de bits generada por las reglas de codificación distinguida o canónica es que está en correspondencia biunívoca con el valor abstracto. Por eso, la transferencia de extremo a extremo sin pérdida de información al nivel de sintaxis abstracta es equivalente a la transferencia de extremo a extremo de la cadena de bits en la que se basa el autenticador.

- b) El receptor decodificará la cadena de bits recibida en la capa de presentación utilizando la sintaxis de transferencia negociada (que puede diferir de la utilizada por el emisor si está presente un relevo de aplicación), y pasará el valor abstracto a la aplicación. En la capa de aplicación, el valor abstracto se recodifica utilizando las reglas de codificación distinguida o canónica para generar la cadena de bits que ha de autenticarse.

Conceptualmente, por tanto, se codifica dos veces en el extremo emisor y se decodifica una vez y a continuación se codifica en el extremo receptor. Es posible que los implementadores decidan realmente hacerlo así, si el código que soporta la operación de la capa de presentación procede de un suministrador distinto del que produce el código que soporta la aplicación. Por ahora no se sabe la importancia que podría tener esta tara. No obstante, cuando se utilice una realización integrada, existe la posibilidad de la optimización que se describe a continuación. Debe tenerse en cuenta además que las reglas de codificación distinguida y canónica no son más difíciles de aplicar que las reglas de codificación básica, salvo en lo que se refiere a la utilización de **SET OF (JUEGO DE)**. Si tiene que procesarse un gran **SET OF**, es posible que la realización invoque una rutina de clasificación basada en disco. Los diseñadores de aplicaciones deben ser conscientes de esto y tratar de utilizar **SEQUENCE OF (SECUENCIA DE)** en vez de **SET OF** cuando se contemple la utilización de reglas de codificación distinguida o canónica.

G.3 La optimización de la implementación

El modelo y las normas de protocolo OSI especifican el comportamiento requerido, pero en ningún caso pretenden constreñir la arquitectura y la estructura del código real. Por tanto, un implementador puede producir el efecto deseado cualquiera que sea el procedimiento que elija.

Se supone que el empleo de longitud indefinida es más adecuado para un documento ODA, es decir, el uso de las reglas de codificación canónica en lugar de las reglas de codificación distinguida.

En el extremo emisor puede conservarse la cadena de bits producida (conceptualmente en la capa de aplicación) y utilizarse para proporcionar la codificación efectuada conceptualmente en la capa de presentación. Esto es adecuado en emisión si la sintaxis de transferencia negociada son las reglas de codificación básica ASN.1 o las reglas de codificación distinguida ASN.1. Si no fueran ni unas ni otras, es necesaria codificación doble.

Análogamente, en extremo receptor, puede conservarse la cadena de bits (para cualquier sintaxis de transferencia), y la implementación puede utilizarla para comprobar el autenticador. Si hay concordancia, se acaba el problema, y si no la hay puede tratarse de un problema de sintaxis de transferencia, siendo necesario recodificar desde el valor abstracto para determinar si hubo manipulación o no.

Para hacer máximas las posibilidades de no tener que duplicar la codificación/decodificación, sería conveniente que los sistemas que utilicen este mecanismo trataran de negociar una sintaxis de transferencia de reglas de codificación canónica (o distinguida) (utilizando el identificador de objeto ASN.1 adecuado) como su primera preferencia, y recurrieran a las reglas de codificación básica (primera preferencia), o a paquetes de reglas o algunas otras reglas de codificación como segunda referencia.