

INTERNATIONAL
STANDARD

ISO/IEC
8613-1

Second edition
1994-12-15

**Information technology — Open
Document Architecture (ODA) and
Interchange Format: Introduction and
general principles**
(standards.iteh.ai)

*Technologies de l'information — Architecture des documents ouverts
(ODA) et format d'échange: Introduction et principes généraux*
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Reference number
ISO/IEC 8613-1:1994(E)

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Foreword

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

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 8613-1 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 18, *Document processing and related communication*, in collaboration with ITU-T. The identical text is published as ITU-T Rec. T.411.

This second edition cancels and replaces the first edition (ISO 8613-1:1989), which has been technically revised.

ISO/IEC 8613-1:1994 consists of the following parts, under the general title *Information technology — Open Document Architecture (ODA) and Interchange Format*:

- *Part 1: Introduction and general principles*
- *Part 2: Document structures*
- *Part 3: Abstract interface for the manipulation of ODA documents*
- *Part 4: Document profile*
- *Part 5: Open Document Interchange Format*
- *Part 6: Character content architectures*
- *Part 7: Raster graphics content architectures*
- *Part 8: Geometric graphics content architectures*
- *Part 9: Audio content architectures*
- *Part 10: Formal specifications*
- *Part 11: Tabular structures and tabular layout*
- *Part 12: Identification of document fragments*
- *Part 13: Spreadsheet*
- *Part 14: Temporal relationships and non-linear structures*

Annexes C, D and E form an integral part of this part of ISO/IEC 8613. Annexes A, B, F and G are for information only.

Introduction

This ITU-T Recommendation | International Standard was prepared as a joint publication by TSS Study Group 8 and ISO/IEC Joint Technical Committee 1.

At present, the ITU-T series of Recommendations in the T.410-Series | International Standard ISO/IEC 8613 consists of:

- Introduction and general principles;
- Document structures;
- Document profile;
- Open document interchange format;
- Character content architectures;
- Raster graphics content architectures;
- Geometric graphics content architectures;
- Formal specifications.

(The formal specification is applicable to ISO/IEC 8613 only.)

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Further Recommendations | International Standards may be added to this series of ITU-T Recommendations | International Standard.

Development of this series of ITU-T Recommendations | International Standards was originally in parallel with the ECMA 101 standard: *Open Document Architecture*.

This series of ITU-T Recommendations | International Standards is a new edition of the CCITT T.410-Series of Recommendations (1988) and ISO/IEC 8613 (1989).

Significant technical changes are the inclusion of the following amendments as agreed by TSS and ISO/IEC:

- Alternative representation
- Annex on use of MHS/MOTIS
- Colour
- Conformance Testing annex
- Document Application Profile Proforma and Notation
- Security
- Streams
- Styles
- Tiled raster graphics

In addition, a number of technical corrigenda have been applied to this series of ITU-T Recommendations | International Standard.

This ITU-T Recommendation | International Standard contains eight annexes:

- Annex A (non-integral) gives references to other standards and registers;
- Annex B (non-integral) gives the relationship of this series of ITU-T Recommendations | International Standards with other CCITT Recommendations and International Standards;
- Annex C (integral) specifies the method of recording documents in conformance with this series of ITU-T Recommendations | International Standards on volume and file structures of interchangeable storage media in conformance with international standards for volume and file structures;
- Annex D (integral) gives the principles for the assignment of ASN.1 object identifier values for this series of ITU-T Recommendations | International Standards;
- Annex E (integral) describes the use of MHS to interchange documents conforming to this series of ITU-T Recommendations | International Standards;
- Annex F (non-integral) defines a standardized proforma for the specification of document application profiles based on this series of ITU-T Recommendations | International Standards;
- Annex G (non-integral) gives directions for the development of a conformance testing methodology for this series of ITU-T Recommendations | International Standards.

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INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – OPEN DOCUMENT ARCHITECTURE (ODA) AND INTERCHANGE FORMAT: INTRODUCTION AND GENERAL PRINCIPLES

1 Scope

The purpose of the ITU-T Rec. T.410-Series | ISO/IEC 8613 is to facilitate the interchange of documents.

In the context of these Recommendations | International Standards, documents are to be items such as memoranda, letters, invoices, forms and reports, which may include pictures and tabular material. The content elements used within the documents may include graphic characters, raster graphics elements, and geometric graphics elements, all potentially within one document.

NOTE – These Recommendations | International Standards are designed to allow for extensions, including hypermedia features, spreadsheets and additional types of content such as audio and video.

In addition to content types defined in these Recommendations | International Standards, ODA also provides for arbitrary content types to be included in documents.

These Recommendations | International Standards apply to the interchange of documents by means of data communications or the exchange of storage media.

These Recommendations | International Standards provide for the interchange of documents for either or both of the following purposes:

- to allow presentation as intended by the originator;
- to allow processing, such as editing and reformatting.

The composition of a document in interchange can take several forms:

- formatted form, allowing presentation of the document;
- processable form, allowing processing of the document;
- formatted processable form, allowing both presentation and processing of the document.

These Recommendations | International Standards also provide for the interchange of ODA information structures used for the processing of interchanged documents.

This ITU-T Recommendation | International Standard:

- introduces this ITU-T T.410-Series of Recommendations | ISO/IEC 8613 as a whole;
- gives the references necessary for the ITU-T T.410-Series of Recommendations | ISO/IEC 8613;
- defines terms used in the context of the ITU-T T.410-Series of Recommendations | ISO/IEC 8613;
- presents the concepts of the document architecture;
- gives an overview of the ITU-T T.410-Series of Recommendations | ISO/IEC 8613;
- describes the inter-dependencies of the ITU-T T.410-Series of Recommendations | ISO/IEC 8613;
- defines conformance to the ITU-T T.410-Series of Recommendations | ISO/IEC 8613;
- gives rules for defining document application profiles.

2 Normative references

The following ITU-T/CCITT Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The ITU-T Secretariat maintains a list of the currently valid ITU-T/CCITT Recommendations.

2.1 Identical Recommendations | International Standards

- ITU-T Recommendation T.412 (1993) | ISO/IEC 8613-2:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Document structures.*
- ITU-T Recommendation T.414 (1993) | ISO/IEC 8613-4:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Document profile.*
- ITU-T Recommendation T.415 (1993) | ISO/IEC 8613-5:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Open Document Interchange Format.*
- ITU-T Recommendation T.416 (1993) | ISO/IEC 8613-6:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Character content architectures.*
- ITU-T Recommendation T.417 (1993) | ISO/IEC 8613-7:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Raster graphics content architectures.*
- ITU-T Recommendation T.418 (1993) | ISO/IEC 8613-8:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Geometric graphics content architectures.*

2.2 Paired Recommendations | International Standards equivalent in technical content

- CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1).*
ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1).*
- CCITT Recommendation X.209 (1988), *Specification of basic encoding rules for Abstract Syntax Notation One (ASN.1).*
ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1).*
- CCITT Recommendation X.411 (1992), *Message Handling Systems: Message Transfer System: Abstract Service Definition and Procedures.*
ISO/IEC 10021-4:1990, *Information technology – Text Communication – Message Oriented Text Interchange Systems (MOTIS) – Part 4: Message Transfer System: Abstract Service Definition and Procedures.* <https://standards.iteh.ai/catalog/standards/sist/d2db4799-213f-4914-b0b3-1339f22bc2bc/iso-iec-8613-1-1994>
- CCITT Recommendation X.420 (1992), *Message Handling Systems: Message Transfer System: Interpersonal Messaging System.*
ISO/IEC 10021-7:1990, *Information technology – Text Communication – Message Oriented Text Interchange Systems (MOTIS) – Part 7: Interpersonal Messaging System.*

2.3 Additional references

- ISO 2022:1986, *Information processing – ISO 7-bit and 8-bit coded character sets – Code extension techniques.*
- ISO/IEC 8613-10:1991, *Information processing – Text and office systems – Office Document Architecture (ODA) and Interchange Format – Part 10: Formal specifications.*
- ISO/IEC 8632-1:1992, *Information technology – Computer graphics – Metafile for the storage and transfer of picture description information – Part 1: Functional specification.*
- ISO/IEC 8632-3:1992, *Information technology – Computer graphics – Metafile for the storage and transfer of picture description information – Part 3: Binary encoding.*
- 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 9293:1987, *Information processing – Volume and file structure of flexible disk cartridges for information interchange.*
- ISO/IEC 9541-1:1991, *Information technology – Font information interchange – Part 1: Architecture.*
- ISO 9660:1988, *Information processing – Volume and file structure of CD-ROM for information interchange.*

3 Definitions

For the purposes of this Recommendation | International Standard, the following definitions apply.

- 3.1 active position:** The point at which the action specified by the next character is to be effected.
- 3.2 aligned around:** A tabulation alignment that positions the sequence of character images for a specified character string such that the position point of the character image of the first instance of a specified group of characters within that string is positioned at the tabulation stop.
- 3.3 alternative description:** A description that represents a basic object that is intended to be used by the recipient in lieu of the primary description of that basic object when the primary description cannot be processed.
- 3.4 alternative subtree:** An alternative basic object description in conjunction with its associated content portion descriptions.
- 3.5 aspect ratio:** The ratio of the dimension of a pel array in the direction of the pel path to the dimension in the direction of the line progression.
- 3.6 assured reproduction area:** The rectangular area that remains on the nominal page after deducting an agreed allowance for edge losses.
- 3.7 attribute:** An element of a constituent of a document that has a name and a value and that expresses a characteristic of this constituent or a relationship with one or more constituents.
- 3.8 authenticity:** The property that the claimed data source can be verified to the satisfaction of the recipient.
- 3.9 available area:** The area determined by the document layout process into which the content portion is formatted by the content layout process.
- 3.10 basic component:** A basic logical or layout object, or an object class from which basic logical or layout objects may be derived.
- 3.11 basic layout object:** An object in the specific layout structure that has no subordinate.
- 3.12 basic logical object:** An object in the specific logical structure that has no subordinate.
- 3.13 basic measurement unit; BMU (abbreviation):** A unit of linear measurement equal to 1/1200 of 25,4 mm.
NOTE – A locally defined scaling factor may be used to map the document to a particular imaging device.
- 3.14 basic value:** An attribute value, a control function parameter value or the value of any other capability that is unconditionally allowed in document interchange in the context of a given document application profile.
- 3.15 binding:** A pair comprising an identifier and a value, where the value may be of any type, may be specified by an expression, and is accessed through use of the binding identifier.
- 3.16 block:** A basic layout component that corresponds to a rectangular area within a frame or a page.
- 3.17 bottom edge:** The edge of the positioning area of a basic layout object that is in the direction of the line progression.
- 3.18 bottom left corner:** The corner of a layout object that is least progressed in the horizontal direction and most progressed in the vertical direction of a layout object.
- 3.19 bottom right corner:** The corner of a layout object that is most progressed both in the horizontal and vertical directions of a layout object.
- 3.20 centred:**
- a) The result of a layout or imaging process that positions the sequence of character images for a line such that the distance from the line home position to the position point of the first character image is approximately equal to the distance from the escapement point of the last character image to the end edge of the positioning area.
 - b) A tabulation alignment that positions the sequence of character images for a specified character string such that the distance from the position point of the first character image to the tabulation stop is approximately equal to the distance from the tabulation stop to the escapement point of the last character image.
- NOTE – The term *centred* is also used as a value in the sub-parameter “alignment” of the parameter “position” and in the attribute “block alignment”.
- 3.21 character:** A member of a set of elements used for the organization, control and representation of information.

- 3.22 character base line:** A line across a character image, in the horizontal direction when the character image is in its intended viewing orientation.
- 3.23 character image:** The human perceptible rendering of a character on a presentation medium.
NOTE – The term *glyph* in ISO/IEC 9541 is equivalent to the term *character image* in this Specification.
- 3.24 character orientation:** The direction of the character base line relative to the characters.
- 3.25 character path:** The direction of progression of successive character images within a line box.
- 3.26 character sequence:** A sequence of characters intended to be presented as one or more lines.
- 3.27 character spacing (for constant spacing fonts only):** The distance between the position points of successive character images when the inter-character space equals zero.
- 3.28 clipped pel array:** The actual pel array to be imaged as determined by taking account of all clipping parameters.
- 3.29 colour component:** One of the dimensions of a colour space.
- 3.30 colour gamut:** The range of colours a given system is capable of reproducing.
- 3.31 complete generator set:** A constituent of a document consisting of a document root object class description and at least one level of subordinate object class descriptions which are used to control the creation and/or modification of the set of object descriptions representing a corresponding specific structure.
- 3.32 component:** An object or an object class.
- 3.33 composite component:** A composite logical or layout object, or an object class from which composite logical or layout objects may be derived.
- 3.34 composite layout object:** An object in the layout structure that has one or more subordinate objects.
- 3.35 composite logical object:** An object in the logical structure that has one or more subordinate objects.
- 3.36 confidentiality:** The property that information is not made available or disclosed to unauthorized individuals, entities or processes.
NOTE – This property is limited here to preventing unauthorized semantic knowledge of a document or specified parts of it.
- 3.37 constant spacing:** The characteristic of a font wherein the distance between the position point and the escapement point is the same for all character images.
- 3.38 constituent:** A set of attributes that is one of the following types: a document profile, an object description, an object class description, a presentation style, a layout style, a content portion description or a protected part description.
- 3.39 content:** The information conveyed by the document, other than the structural information, and that is intended for human perception.
- 3.40 content architecture:** Rules for defining the internal structure and representation of the content of basic components in terms of a set of content elements, attributes and control functions, and guidelines for the presentation of the content.
- 3.41 content architecture class:** The rules for defining the internal structure and representation of the content of basic components in one of a set of forms defined for each type of content element.
NOTE – Examples of content architecture classes are formatted form, processable form and formatted processable form in the case of character content elements.
- 3.42 content editing process:** The process that creates new content or modifies previous content.
- 3.43 content element:** A basic element of the content of a document.
- 3.44 content layout process:** The process that, interacting with the document layout process, consists of the formatting of content portions into available areas and the determination of the sizes of blocks in accordance with information contained in the presentation styles.
- 3.45 content portion:** The result of partitioning the content of a document according to its logical and/or layout structure.
- 3.46 content portion description:** A constituent of a document, representing a content portion that consists of content information and attributes to specify the properties of its content information.

3.47 content type: A category of content elements such as graphic characters, raster graphic elements and geometric graphic elements.

3.48 control function: An element of a character set that affects the recording, processing, transmission or interpretation of data, and that has a coded representation consisting of one or more bit combinations.

NOTE – Examples of control functions are Selected Graphic Rendition (SGR) in character content architectures and Set Line Type in geometric graphics content architectures.

3.49 current layout position: The identification of a lowest level frame which is maintained during the layout process for each layout stream which occurs.

3.50 Cyan Magenta Yellow (Black); CMY(K) (abbreviation) colour space: Colour space based on the subtractive colour mixture of Cyan (C), Magenta (M) and Yellow (Y) primaries with the optional inclusion of Black (K) as indicated by the parentheses.

3.51 DAP-n data stream: An ODA data stream in which the data elements are in accordance with a particular document application profile named *n*, defined in accordance with this Specification.

3.52 data integrity: The property that data has not been altered or destroyed.

3.53 data structure: A set of data items and the relationship between them representing the whole or a part of a constituent.

NOTE – The data items constituting a data structure represent attributes of the document, the document profile, the components, the styles, or the content portions concerned.

3.54 description: A constituent that corresponds to a structural element.

NOTE – A basic object may have several descriptions when alternative descriptions are used.

3.55 descriptor: A data structure representing the document profile, an object class description, a layout style, a presentation style, an object description, or a protected part description.

3.56 device space: A colour space where the coordinates are those used by a particular device in the measurement or rendition of colour.

3.57 digital signature: A form of seal associated with a specified part of a document which provides proof of uniqueness of the identity of the originator (source) who applied the seal; it supports non-repudiation of origin of the sealed (signed) part. <https://standards.iteh.ai/catalog/standards/sist/d2db4799-213f-4914-b0b3-1339f22bc2bc/iso-iec-8613-1-1994>

3.58 document: A structured amount of information intended for human perception, that may be interchanged as a unit between users and/or systems.

3.59 document application profile: The specification of a combination of features defined in ITU-T Rec. T.410-Series | ISO/IEC 8613, intended to form a subset to fulfil the requirements of an application.

3.60 document architecture:

- a) Rules for defining the structure of documents, in terms of collections of constituents and the attributes of which these are composed.
- b) The structural information of a document consisting of the set of one or more of the following structures: specific logical structure, specific layout structure, generic logical structure and/or generic layout structure together with presentation styles and/or layout styles.

3.61 document architecture class: The rules for defining the structure and representation of documents in formatted form, processable form or formatted processable form.

3.62 document body: The part of a document that may include a generic logical and layout structure, specific logical and layout structure, layout and presentation styles, protected parts but excludes the document profile.

3.63 document class: A set of logical object class descriptions, layout object class descriptions, generic content portion descriptions, styles and a document profile, that specifies a set of documents with common characteristics.

3.64 document class description: The specification of a document class.

3.65 document layout process: The process that creates a specific layout structure in accordance with the generic layout structure and information contained in the specific logical structure, the generic logical structure and the layout styles.

3.66 document layout root: The composite object of the specific layout structure at the highest level of the hierarchy.

- 3.67 document logical root:** The composite object of the specific logical structure at the highest level of the hierarchy.
- 3.68 document profile:** A set of attributes which specifies the characteristics of the document as a whole.
- 3.69 editing:** The carrying out of operations associated with creation and modification of the structure and/or the content of a document.
- 3.70 editing process:** The stage of document processing that consists of the content editing process and the logical structure editing process.
- 3.71 end-aligned:**
- a) The result of a layout or imaging process that positions the sequence of character images for a line such that the escapement point of the last character image is positioned at the end edge of the positioning area.
 - b) A tabulation alignment that positions the sequence of character images for a specified character string such that the escapement point of the last character image is positioned at the tabulation stop.
- 3.72 end edge:** The edge of the positioning area of a basic layout object that is in the direction of the character path.
- 3.73 escapement point:** A reference point associated with a character image that is used for positioning of the next character image.
- 3.74 external document class:** A document class referred to by the document profile of an interchanged document containing no generic structure.
- 3.75 factor set:** One or more object class descriptions which are used to factorise the attributes of object descriptions representing a specific structure.
- 3.76 file:** A named collection of information.
- 3.77 file section:** For a file recorded over more than one volume, that part of the file that is recorded on any one volume.
- NOTE – The term *file* in ISO 9293 is equivalent to the term *file section* in this Specification.
- 3.78 file space:** The region within which a file section may be recorded on a volume.
- 3.79 filing:** The storage of a document according to some defined method in order to facilitate retrieval of the document.
- 3.80 fingerprint:** A short and compact code that may be computed in order to characterize some specified information, with the property that it is not practicable to construct different information which would yield the same output.
- 3.81 font:** A set of character images normally with a common design and size.
- 3.82 font size:** The height of the character images in a font.
- 3.83 formatted form:** A form of representation of a document that allows the presentation of the document as intended by the originator and that does not support editing and (re)formatting.
- 3.84 formatted processable form:** A form of representation of the document that allows presentation of the document as intended by the originator and also supports editing and (re)formatting.
- 3.85 formatting:** The carrying out of operations to determine the layout of a document.
- 3.86 frame:** A type of composite layout component that corresponds to a rectangular area within a page or another frame.
- 3.87 generic content portion:** A content portion associated with an object class.
- 3.88 generic content portion description:** A content portion description associated with an object class description.
- 3.89 generic-document:** A structured amount of information intended for the interchange of generic structures, and optionally associated styles and content portions, for use in the processing of interchanged documents.
- 3.90 generic layout structure:** A set of layout object classes and associated generic content portions.
- 3.91 generic logical structure:** A set of logical object classes and associated generic content portions.

- 3.92 geometric graphic element:** A graphic element used to describe an image by geometric graphical means.
NOTE – Geometric graphics elements include those describing primitive geometric shapes such as points, arcs, lines.
- 3.93 graphic character:** A member of a set of graphic symbols used for the representation of information.
NOTE – Graphic characters include simple alphanumeric characters (for example, accented letters) and pictorial characters (for example, mosaics).
- 3.94 graphic element:** A content element that is capable of having a visual representation.
NOTE – Three types of graphic elements are distinguished in the ITU-T Rec. T.410-Series | ISO/IEC 8613: graphic characters, raster graphics elements, and geometric graphics elements.
- 3.95 hard line terminator:** A line terminator that is intended not to be removed in a reformatting process.
- 3.96 horizontal direction (of a layout object):** The direction in a layout object relative to which content architectures may define attributes determined by using the horizontal axis of the page.
- 3.97 imaging order:** The order of precedence of layout objects for imaging in the layout object to which they are immediately subordinate.
- 3.98 imaging process:** The process of producing a document on a presentation medium in human-perceptible form, making use of the document profile, specific and generic layout structures, presentation styles and content portions.
- 3.99 implicit layout category:** The layout category of a logical object which is used in the absence of an explicit specification of a layout category for that object.
- 3.100 indentation:** The result of a layout or imaging process that causes the sequence of character images for a line to begin at a distance from the line home position in the direction of the character path.
- 3.101 initial point:**
- The point associated with a basic layout object relative to which all line boxes imaged within that basic layout object are positioned (character content architectures ITU-T Rec. T.416 | ISO/IEC 8613-6).
 - The point associated with a basic layout object relative to which all pels imaged within that basic layout object are positioned (raster graphics content architectures ITU-T Rec. T.417 | ISO/IEC 8613-7).
- 3.102 integrity:** Used here synonymously with data integrity.
- 3.103 intended recipient:** A recipient of a document that is expected to receive or have access to the document.
- 3.104 interchange:** The process of providing a document to a receiving person or device, by means of data communication or by exchange of storage media.
- 3.105 interchange data element:** A data structure representing a constituent of a document.
- 3.106 interchange format:** The rules for representing a document for the purpose of interchange.
- 3.107 interchange format class:** A form of interchange format suitable to a specific application.
NOTE – In the ITU-T Rec. T.410-Series | ISO/IEC 8613, the defined classes differ by the ordering of the interchange data elements or by the coding.
- 3.108 interchangeable storage medium:** Storage medium which can be used to interchange information by moving the medium from one information processing system to another.
- 3.109 inter-character space:** An additional amount of spacing that is included between adjacent character images.
- 3.110 intersection:** The common area of two or more layout objects that overlap each other partially or fully on the presentation medium.
- 3.111 item identifier:** A string of characters that precedes and is separated from the remainder of the first line of a basic component with content. An item identifier is used to identify the subsequent text.
- 3.112 justified:** The result of a layout or imaging process that varies the width of the space character and/or the inter-character space to produce a simultaneously start-aligned and end-aligned presentation of the text.
- 3.113 kern:** The part of a character image which extends beyond its position point or escapement point.
- 3.114 layout category:** The association of basic logical objects with lowest level frames such that the content of these basic logical objects is placed in the appropriate frames.
- 3.115 layout object:** An element of the specific layout structure of a document, for example, page, block.