INTERNATIONAL STANDARD

# ISO/IEC 9070

Second edition
1991-04-15

# Information technology — SGML support facilities — Registration procedures for public text owner identifiers

*Technologies de l'information — Facilités de support SGML — Procédures d'enregistrement pour identificateurs de propriétaire de texte public*



Reference number
ISO/IEC 9070:1991(E)

# Contents

# 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 9070 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology.*

This second edition cancels and replaces the first edition (ISO 9070:1990), which has been technically revised.

Annexes A, B, C and D of this International Standard are for information only.

# Introduction

This International Standard has been developed to support the use of the Standard Generalized Markup Language (SGML), defined in ISO 8879, and other text description and processing languages.

ISO 8879 allows the sharing of "public text", which it defines as:

> Text that is known beyond the context of a single document or system environment, and which can be accessed with a public identifier.

A public identifier consists of two parts: an "object name", which identifies the text (or other shared information object), and an "owner name", which identifies the originator of the public identifier. Some minimal procedures are required to avoid the chance of two owners assigning the same identifiers to different items. This International Standard defines such procedures, based upon the allocation of unique owner prefixes to each owner which are incorporated into registered owner names.

NOTE 1 The existence of an item of public text does not imply that it is readily available to all users. It may be "public" only within an organization, and may have a registered owner name solely to avoid conflict with the identifiers of other public text.

The naming scheme for owner names defined in this International Standard meets the requirements that it

— provide unambiguous identification of objects, organizations and naming authorities world-wide;

— provide names that can have equivalent encodings in supported interchange formats (ASN.1 and SGML), and that can be represented both as data structures and as equivalent character strings;

— support straightforward name equivalence testing;

— support decentralized registration of both standard and non-conflicting organization-specific (private) names;

— support a non-revisable, expanding domain of registered names;

— provide for the optional association of general descriptive information;

— lend itself to the efficient definition, encoding and interchange of complex, hierarchical names.

# Information technology — SGML support facilities — Registration procedures for public text owner identifiers



## 1 Scope

This International Standard applies to the assignment of unique owner prefixes to owners of public text conforming to ISO 8879. It describes the procedures whereby such assignments are made, and the method of constructing registered owner names from them. Procedures for self-assignment of owner prefixes by standards bodies and other organizations are also specified.

NOTE 2 Examples of registered public text are given in annex A. Further examples may be found in annexes to ISO 8879.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 639:1988, *Code for the representation of names of languages.*

ISO 2108:1978, *Documentation — International standard book numbering (ISBN).*

ISO 2375:1985, *Data processing — Procedure for registration of escape sequences.*

ISO 3166:1988, *Codes for the representation of names of countries.*

ISO 6523:1984, *Data interchange — Structures for the identification of organizations.*

ISO/IEC 8824:1990, *Information technology — Open Systems Interconnection — Specification of 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).*

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).*

## 3 Definitions

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

NOTE 3 The definitions are presented in alphabetical order for reference purposes. However, for tutorial purposes they should be read as though organized in the following structure:

```
public text
public identifier
  SGML formal public identifier
  structured name (public identifier)
    owner name
      registered owner name
        registered owner prefix
          ISBN prefix
          ISO 2375 prefix
        naming authority
          ISO identified organization
              authority
          ISO member body authority
          ISO registration authority
          ISO publication authority
            ISO co-publisher
    unregistered owner name
  object name
```

**3.1 ISBN prefix:** A registered owner prefix constructed from components of an International Standard Book Number.

NOTE 4 Its naming authority type is ISO registration authority.

**3.2 ISO 2375 prefix:** A registered owner prefix used to identify character sets registered in accordance with ISO 2375.

NOTE 5 Its naming authority type is ISO registration authority.

**3.3 ISO 9070 prefix:** A registered owner prefix assigned by the registration authority designated for this International Standard.

NOTE 6 Its naming authority type is ISO registration authority.

**3.4 ISO co-publisher:** An organization with which the ISO jointly publishes standards and other publications, and whose name (or an abbreviation) appears in the publication number.

NOTE 7 For example, IEC.

**3.5 ISO identified organization authority:** An organization with an International Code Designator assigned in accordance with ISO 6523 that acts as a naming authority for issuing organization codes.

NOTES

8 ISO 6523 specifies a Structure for the Identification of Organizations (SIO) for the purpose of facilitating data interchange, including recommendations regarding points on which prior agreement is necessary between interchange parties.

9 The ISO 6523 SIO consists of an International Code Designator (ICD), an organization code, and an organization name.

**3.6 ISO member body authority:** An ISO member body that is the naming authority and issuing organization for objects and organizations registered within its country.

**3.7 ISO registration authority:** A naming authority established by an international standard which specifies the procedures under which it operates.

**3.8 ISO publication authority:** An ISO/IEC standard or part that acts as a naming authority for public text or other public objects defined within it.

**3.9 naming authority:** An issuer of registered owner prefixes for a class of public text or other public objects.

NOTE 10 Four kinds are recognized in this International Standard: ISO publication authority, ISO registration authority, ISO member body authority, and ISO identified organization authority.

**3.10 owner name:** The portion of a public identifier that names its owner.

NOTES

11 There are two kinds: registered, and unregistered.

12 The "ISO owner identifier" defined in ISO 8879 is a registered owner name whose naming authority is an ISO publication authority or an ISO registration authority.

13 The owner of a public identifier is not necessarily the owner of the object that it identifies.

**3.11 public identifier:** The identifier of public text or other shared information objects.

NOTE 14 A public identifier is defined as a canonical character string, which normally also serves as a visual representation. Two other equivalent representations of public identifiers are recognized in this International Standard: SGML formal public identifier and structured name public identifier.

**3.12 public text:** Text that is known beyond the context of a single document or system environment, and which can be accessed with a public identifier.

**3.13 registered owner name:** A unique owner name that is constructed in accordance with this International Standard.

NOTES

15 It consists of a registered owner prefix and an optional sequence of owner-name components.

16 It is distinguished from an unregistered owner name by the presence of a registered owner prefix.

**3.14 registered owner prefix:** The portion of a registered owner name that identifies the naming authority.

**3.15 SGML formal public identifier:** A representation of a public identifier that is constructed according to rules defined in ISO 8879.

**3.16 structured name (public identifier):** A public identifier, constructed in accordance with this International Standard, that is represented as a data structure.

NOTE 17 A structured name contains the normal components of a public identifier, plus optional descriptive messages.

**3.17 object name:** The portion of a public identifier that identifies an object so that it can be distinguished from any other object with the same owner name.

**3.18 unregistered owner name:** An owner name that does not have a registered owner prefix.

## 4 Notation

The construction of public identifiers is specified by formal syntax productions, each of which defines a "syntactic variable". A production consists of a reference number (in square brackets), the name of the syntactic variable being defined, an equals sign, and an expression that constitutes the definition.

[number] syntactic variable = expression

The expression is composed of one or more "syntactic tokens", parenthesized expressions, and symbols that define the ordering and selection among them.

### 4.1 Syntactic tokens

The following list shows the syntactic token types using the typographic conventions employed for them in this International Standard.

*syntactic variable*. A syntactic token that is defined by a syntax production.

"syntactic literal". A syntactic token consisting of a literal character string.

***Terminal Constant***. A syntactic token that represents a character class. They are

***Digit*** A numeric character in the range "0" through "9".

***LC Letter*** A lower-case unaccented Latin character in the range "a" through "z".

***UC Letter*** An upper-case unaccented Latin character in the range "A" through "Z".

### 4.2 Ordering and selection symbols

If there is more than one syntactic token in an expression, the ordering and selection among them is determined by symbols that connect them, as follows:

, All must occur, in the order shown.

& All must occur, in any order.

| One and only one must occur.

Each selected syntactic token must occur once and only once unless the contrary is indicated by a suffix consisting of one of the following symbols:

? Optional (0 or 1 time).

+ Required and repeatable (1 or more times).

* Optional and repeatable (0 or more times).

Successive instances of a syntactic token are deemed to be repetitions of a repeatable token, where permissible, rather than instances of multiple tokens.

The occurrence suffixes are applied first, then the ordering connectors. Parentheses can be used as in mathematics to change these priorities.

## 5 Public identifiers

A public identifier can be represented in three semantically equivalent ways:

a) In a canonical character string form, defined by the syntax productions in this clause. This form shall be used in all visible representations and for internal equality comparisons except for the special visual representations defined for ISO 2375 and ISBN prefixes.

b) In an SGML formal public identifier, defined in ISO 8879.

c) In a data structure known as a "structured name public identifier", defined in clause 6.

NOTE 18 This provision assures that the character string form of public identifier presented on screen menus and user documentation is the exact equivalent of the form used internally and in data structures.

A standard that uses public identifiers can offer methods of abbreviating them in order to achieve efficiencies of storage or processing.

The alphabet of public identifiers is defined in terms of a character repertoire, with no implication of the coded character set that is used. A standard that uses public identifiers shall specify a means of identifying the coded character set that is used.

[1] public identifier = *owner name*, "//", *object name*

[2] owner name = *registered owner name* | *unregistered owner name*

A public identifier cannot contain consecutive solidi (//) or consecutive colons (::) except where expressly permitted by this clause.

The length of an owner name shall not exceed 120 characters.

The length of an object name shall not exceed 100 characters.

A naming authority can restrict the length or character repertoire of an object name, but cannot restrict the length or character repertoire of those portions of an owner name that it does not itself assign.

NOTE 19 This provision allows a standard to optimize the naming of objects for their intended uses, without requiring an organization to satisfy the constraints of multiple standards when constructing an owner name.

## 5.1 Registered owner name

[3] registered owner name = *registered owner prefix*, ("::", *owner-name component*)*

[4] owner-name component = *owner-name character*, (***SPACE***?, *owner-name character*)*

[5] owner-name character = ***UC Letter*** | ***LC Letter*** | ***Digit*** | "'" | "(" | ")" | "+" | "," | "-" | "." | ":" | "=" | "?" | "/"

NOTES

20 Only the registered owner prefix portion of an owner name must have a centrally registered component.

21 It is recommended that owners adopt some systematic convention in the creation of *owner-name components*, such as a hierarchical assignment that progressively identifies the owner with greater precision. For example, if XYZ Corporation has a division called GSD, it might delegate to that division the authority to assign all owner names composed of the registered owner prefix for XYZ Corporation and whose first owner-name component is "GSD".

22 For consistency in identifying public text contained in ISO member body publications, it is recommended that ISO member bodies adopt conventions for the automatic derivation of an owner-name component from a publication number. (Ideally, they should be identical.) The derivation of the ISO publication authority prefix (see 5.2.1) may be a useful model.

## 5.2 Registered owner prefix

The syntax productions in this clause define the string forms of registered owner prefixes. The corresponding ASN.1 object identifiers are described in the accompanying text.

NOTE 23 For ISO 2375 and ISBN prefixes, an equivalent string form is defined for internal string comparisons. In all other cases, the string form defined by this International Standard is used for both external identification and internal comparisons.

[6] registered owner prefix = *ISO standard authority prefix* | *ISO registration authority prefix* | *ISO member body authority prefix* | *ISO identified organization authority prefix*

No two registered owner prefixes shall be the same.

### 5.2.1 ISO publication authority

[7] ISO publication authority prefix = "ISO", ("/", "aaa")?, ***SPACE***, "nnnn", ("-", "pp")?, ":", "yyyy"?

where

aaa is replaced by the designation of an ISO co-publisher.

NOTE 24 For example, IEC.

nnnn is replaced by the number of an ISO publication.

pp is replaced by the part number (if any).

yyyy is replaced by the year of publication.

The form of ISO publication authority prefix that includes the year of publication should be used to name objects that may undergo revision. The form that does not include the year of publication should be used to name objects that will not undergo revision.

NOTE 25 The form that includes the year of publication binds the public identifier to that particular version of the publication. The form that does not include the year binds the public identifier to the entire class of all versions of the publication. Should an object whose public identifier is in the latter form become obsolete, the public identifier will nevertheless continue to identify that obsolete object; it cannot be "reused" to identify a later version of the object.

The equivalent ASN.1 object identifier is

ISO (1) STANDARD (0) nnnn pp yyyy

where the definitions are the same as above.

### 5.2.2 ISO registration authority

[8] ISO registration authority prefix = *full registration authority prefix* | *ISBN prefix* | *ISO 2375 prefix*

[9] full registration authority prefix = "ISO", ("/", "aaa")?, ***SPACE***, "nnnn", ("-", "pp")?, "/", ("R"|"r"), ("A"|"a")

where

aaa is replaced by the designation of an ISO co-publisher.

NOTE 26 For example, IEC.

nnnn is replaced by the number of an ISO registration standard.

pp is replaced by the part number (if any).

NOTE 27 The three-character suffix "/RA" distinguishes a full registration authority prefix from an ISO publication authority prefix that does not include the year of publication.

The equivalent ASN.1 object identifier is

ISO (1) Registration-Authority (1) nnnn pp

where the definitions are the same as above.

#### 5.2.2.1 ISBN prefix

[10] ISBN prefix = "ISBN", ***SPACE***, "gggg", "-", "pppp" ("-", "tttt")?

where

gggg is replaced by the group identifier of an ISBN number.

pppp is replaced by the publisher identifier of an ISBN number.

tttt is replaced by the title identifier of an ISBN number.

For string form comparisons and ASN.1 representation, an ISBN prefix is treated as though "gggg-pppp-tttt" were the first owner-name component following the full registration authority prefix "ISO 2108".

NOTES

28 There is no ambiguity because an ISBN prefix is the only registered owner prefix that can begin with "ISBN".

29 The ISBN prefix is defined to satisfy the International ISBN Agency requirement that the letters "ISBN" precede an ISBN number whenever it is printed.

#### 5.2.2.2 ISO 2375 prefix

[11] ISO 2375 prefix = "ISO Registration Number", ***SPACE***, "ccc"+

where

ccc is replaced by the number of an ISO registered character set.

For string form comparisons and ASN.1 representation, an ISO 2375 prefix is treated as though "ccc" were the first owner-name component following the full registration authority prefix "ISO 2375".

NOTES

30 There is no ambiguity because an ISO 2375 prefix is the only registered owner prefix that can begin with the string "ISO Registration Number".

31 The ISO 2375 prefix is defined for compatibility with ISO 8879.

### 5.2.3 ISO member body authority

[12] ISO member body authority prefix = "aa"

where

aa is replaced by the ISO 3166 2-character alphabetic country code for the country of a member body of ISO.

The equivalent ASN.1 object identifier is:

ISO (1) Member-Body (2) nnn

where

nnn is replaced by the ISO 3166 3-digit numeric country code for the country of a member body of ISO.

### 5.2.4 ISO identified organization authority

[13] ISO identified organization authority prefix = "ICD", "iiii", "/", "oooo"

where

iiii is replaced by the 4-digit International Code Designator assigned in accordance with ISO 6523.

oooo is replaced by the 1-14 character organization code assigned in accordance with ISO 6523.

The equivalent ASN.1 object identifier is

ISO (1) Identified-Organization (3) iiii

where iiii is as defined above.

## 5.3 Unregistered owner name

All unregistered owner names have a common owner prefix, consisting of the word "UNREGISTERED". The corresponding ASN.1 object identifier is the null object identifier.

An unregistered owner name must include at least one owner name component, but in other respects is the same as a registered owner name.

NOTE 32 The user of a public identifier with an unregistered owner name should either ensure that the name is unique within the scope of the operations in which it is used, or else assume the risk that it is not unique. For example, its use might be appropriate for local development and testing pending the completed registration of an organizational owner name.

### 5.4 Object name

[14] object name = *object-name component*, ("::", *object-name component*)*

[15] object-name component = *object-name character*, (***SPACE***?, *object-name character*)*

[16] object-name character = ***UC Letter*** | ***LC Letter*** | ***Digit*** | "'" | "(" | ")" | "+" | "," | "-" | "." | ":" | "=" | "?" | "/"

NOTES

33 A sequence of object-name components could represent a hierarchy in which each level, in effect, defines a class of objects. The public identifier

```
"XYZ//font::metric::x-offset::622"
```

for example, could be a hierarchically defined font property value. Alternatively, the components could represent independent properties.

34 A naming authority could require that a particular owner-name component in the sequence be constructed from a restricted alphabet, have a fixed length, or meet other requirements. For example, it could require that the first name be a digit string in a form that allows two of them to compare identically as strings if and only if the integer quantities they represent are equal, and vice versa. Such a string could be formed either by establishing a fixed length and padding with high-order zeros (e.g., 003 and 123) or by allowing a variable length but requiring that the first character be non-zero (e.g., 3 and 1234). An example that requires the second object-name component to have this property might be: ISO 10036//GLYPH::2872

When an object name identifies an ISO publication, one object-name component should consist of the last element of the publication title, without the part number designation (if any).

NOTES

35 For example, for ISO 9070 it would be "Registration procedures for public text owner identifiers". There is no need to include the publication number as part of the object name as it is present in the owner name.

36 It is recommended that ISO member bodies adopt similar conventions for the derivation of object names from the titles of their publications.

## 6 Structured name public identifier

A structured name public identifier is a data structure consisting of an owner name and an object name, each of which can be accompanied by an optional descriptive message. Only the owner name and object name are considered when determining whether two structured names are identical.

The two descriptive messages, either or both of which can be present, are an "owner description" and an "object description". Each message consists of two parts:

a) A numeric name that is the universal class number of one of the character string types defined in ISO 8824.

b) A character string encoded in accordance with the character string type. If the character string does not imply an encoding (NumericString and PrintableString do not), the character set is that used for the owner name portion of the structured name.

Structured name public identifiers can be represented both as structures defined in ASN.1 and as elements defined in SGML. They can be converted from one of the two representations to the other without loss of information.

NOTE 37 Recommended formats for structured names are given in annex D.

## 7 Registration procedures

This International Standard[1] establishes a registration authority, designated the "ISO 9070 Registration Authority", which shall:

— receive applications for assignment of registration numbers;

— issue registration numbers to be used as the first owner-name component in owner names for which "ISO 9070" is the registered owner prefix.

NOTES

38 The ISO 9070 Registration Authority should adopt a simple procedure for assigning prefixes, such as a serial numbering scheme.

39 It is recommended that, when the naming authority is the ISO 9070 Registration Authority, the second owner-name component should be the ISO 3166 2-character alphabetic country code that identifies the country of the owner.

1) For the purpose of this International Standard and according to the rules for the designation and operation of registration authorities in the IEC/ISO Directives, the ISO Council has designated the American National Standards Institute (ANSI) to act as registration authority.

# Annex A
(informative)

# SGML formal public identifiers

## A.1 Syntax

The components of an SGML formal public identifier are

— owner name;

— object name;

where the object name consists of

— public text class (required);

— unavailable text indicator (optional);

— public text description (required);

— public text language (required, except for character sets);

— public text display version (optional).

Values are assigned to these components as specified in ISO 8879.

The *owner name*, if it is to be registered, is formulated as described in this International Standard.

The *public text class* identifies the particular class of SGML construct that the public text falls into, as defined in ISO 8879.

The *unavailable text indicator* prefixes the *public text description* only if the owner does not wish to make the public text available for general use.

The *public text description* is a unique name assigned by the owner to the particular item of public text.

The *public text language* is a two-character identifier of the principal natural language to be used for interpretation of the public text. This two-character identifier should be assigned in accordance with ISO 639.

The *public text display version* is a sequence of characters that is used to indicate any device-dependence that the public text may exhibit when presented on a display surface. See ISO 8879 for further information.

## A.2 Construction

Examples of the use of SGML formal public identifiers may be found in annexes to ISO 8879, especially in annexes D and E.

The following are examples of how an imaginary owner might use a registered owner prefix to construct SGML formal public identifiers.

The owner, Perfect Publishing Company, applies to the ISO 9070 Registration Authority and is issued the registration number "1054". The owner, a UK-based company, follows the recommended conventions and decides to begin the owner-name components with "/GB::PERFECT".

The owner decides to set up two identifiable groups of public text: one associated with automotive parts catalogues, the other associated with telephone directories. The additional owner-name components for these two groups are "AUTO" and "PHONE", thus making the full owner names:

```
ISO 9070/RA::1054::GB::PERFECT::AUTO
ISO 9070/RA::1054::GB::PERFECT::PHONE
```

In the case of the automotive parts catalogue, the public text includes a document type definition and a special notation called "Autolingo". The notation is proprietary, and so not publicly available. The SGML formal public identifiers are:

```
"+//ISO 9070/RA::1054::GB::PERFECT::AUTO//DTD Auto Parts Catalogue//EN"
"+//ISO 9070/RA::1054::GB::PERFECT::AUTO//NOTATION -//Autolingo//EN"
```

In the case of the telephone directory, the owner wishes to identify an entity set and a short reference set. Both are publicly available, but the entity set is a character entity set that has both a device-independent form and device-dependent forms for videotex controls and a Gutenberg photocomposer. The SGML formal public identifiers are:

```
"+//ISO 9070/RA::1054::GB::PERFECT::PHONE//SHORTREF Directory symbols//EN"
"+//ISO 9070/RA::1054::GB::PERFECT::PHONE//ENTITIES Directory symbols//EN"
"+//ISO 9070/RA::1054::GB::PERFECT::PHONE//ENTITIES Directory symbols//EN//Videotex"
"+//ISO 9070/RA::1054::GB::PERFECT::PHONE//ENTITIES Directory symbols//EN//Gutenberg"
```

## A.3 Conversion to other public identifier representations

When an SGML formal public identifier is converted to a structured name or canonical character string, the public text class becomes the first object-name component. If an unavailable public text indicator is present, a hyphen becomes the second object-name component. The remaining components (public text description, public text language or designating sequence, and public text display version) become successive object-name components.

When a structured name or canonical character string is converted to an SGML formal public identifier, the reverse of the above conversion should be attempted if the first object-name component is a valid public text class and the last (or last but one) is a 2-character name other than "XX". If not, the public text class and public text language should be defaulted to "NONSGML" and "XX", respectively, and the complete object name should become the public text description.