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7-bit and 8-bit codes and their extension
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Personal Comments on "Working draft for the revision of ISO 2375", dated 1999-05-30

Doc Type:
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Source:
Edwin Hart

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For review and discussion at the WG 3 Meeting in Denmark in September

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This document lists several concerns about the 1999-05-30 working draft for the revision of ISO/IEC 2375. I ask for WG 3 to discuss them and decide how to accommodate them in a new draft. This cover letter lists these concerns.

I appreciate Michael Everson's effort to initiate the revision of ISO 2375 and have read the working draft. In general, I personally like the idea of identifying a character in a registration by using the corresponding character in ISO/IEC 10646. WG 3 is doing this for its 7-bit and 8-bit standards for coded character set, and extending it to ISO 2375 is an excellent idea. I also appreciate having the desired format for the code table in the standard without a Submitting Authority needing to obtain a second document, "Practices of the Registration Authority for ISO 2375".

The attachment to this document is the 1999-05-30 working draft with several comments embedded in the text. Many of the comments are editorial. However, others identify concerns that WG 3 needs to resolve before proceeding to standardize a new edition of ISO/IEC 2375. The next part lists these concerns.

List of Concerns

1. What should be the division of duties of the Submitting Authority (SA) versus the Joint Advisiory Committee (JAC) with respect to providing the ISO/IEC 10646 short identifiers and names for the proposed registration?

    The Working Draft states that the JAC will provide the mapping to ISO/IEC 10646. This is an unreasonable amount of work to expect of volunteers on the JAC. The SA should provide a proposed mapping for the JAC to review. However, if the SA has difficulty mapping a few characters, then it is

reasonable for the SA to ask the JAC for assistance. However, "assistance" does not mean that the JAC will define and document all of the character mappings to ISO/IEC 10646 for the full proposal.

My recommendation is that the SA provides the mapping from the characters in the proposed registration to ISO/IEC 10646 but that the SA may ask the JAC for assistance with a small subset of characters from the proposal.

2. Should the names of the characters in the registration be only in English?

Given the availability of ISO/IEC 10646 in languages other than English, does SC 2 want the revision of 2375 to get into the issue of providing English names for the proposed registration, or merely provide the ISO/IEC 10646 short identifier (code position)? Moreover, when ISO 2375 was approved, SC 2 had the philosophy of using the English name of a character to uniquely identify it. Now, SC 2 is using the ISO/IEC 10646 code position to identify characters. Given that the current registry uses the character name in English, do we want to make this change in philosophy? If so, should the existing registrations be updated?

I recommend that ISO/IEC 2375 retain the character names in English as an identifier. I also recommend that the RA not require that the existing registrations be updated to any new requirements that may be in the next edition of ISO/IEC 2375. However, since SC 2 has recently revised its standards to use the ISO/IEC 10646 character names and code positions as identifiers, it may be reasonable for SC 2 to decide to update these registrations.

3. Should someone from the Unicode Consortium and someone knowledgeable in ideographic characters be required by the revised standard to be on the JAC?

From time to time the JAC will need the help of someone from the Unicode Consortium, for example, with mapping characters in proposed registrations to ISO/IEC 10646. Also, the JAC will need the help of a representative from Eastern Asia and perhaps, the entire SC 2/WG 2/IRG, with applications for ideographic characters. I see two alternatives: (a) Have both a representative from the Unicode Consortium and another representative from the IRG be permanently on the JAC. (b) Have both a Unicode representative and an IRG representative as non-voting liaison members of the JAC.

My recommendation is to have both a Unicode representative and an IRG representative as non-voting liaison members of the JAC.

4. If a question or disagreement arises as to the proper mapping of a proposed character into 10646, who should have the final authority to resolve the question: SC 2, the SA, SC 2/WG 2, the JAC, the RA?

I would recommend that the JAC have this responsibility. However, the SA should be allowed to identify an alternate mapping in the registration.

5. What if a "character" in a proposed registration does not map directly into ISO/IEC 10646?

    Examples of this would include the "characters" rejected for inclusion in ISO/IEC 10646 from the coded character sets of TC 46.

    I would recommend that this be noted in the registration. However, the fact that a registration includes one or more "characters" that do not map directly into ISO/IEC 10646 is not sufficient justification for encoding them in ISO/IEC 10646. SC 2 must decide whether to encode or not encode characters proposed for ISO/IEC 10646 on the merits of a specific proposal.

6. Should the JAC identify to SC 2/WG 2, "characters" in new, proposed registrations but not in ISO/IEC 10646?

    I recommend that the JAC not be required to identify "characters" in proposals but not in ISO/IEC 10646. If a SA or anyone else wants to propose adding characters to ISO/IEC 10646, it may do so via the normal procedure.

7. If at a later time, a "character" in a registration is encoded in ISO/IEC 10646, who has the responsibility for updating the registration with this information.

    I would recommend that the SA have this responsibility. However, the SA should not be required to make such an update. Anyone who learns of this situation should notify the SA for the particular registration so that the SA may decide about making the request to update the registration.

8. How much more of the document, "Practices of the Registration Authority", should be incorporated directly into the revised standard?

    If the revised 2375 standard can provide all of the needed information and still provided the RA with any needed flexibility, why require an SA to obtain both the 2375 standard plus a "Practices of the Registration Authority" document?

9. Since the RA is publishing the 2375 Registry on the WWW, what additional information (like fonts) should be required from the SA for registration?

    I have seen comments that the scanned ideographic characters are very difficult to distinguish in the WWW copy of the 2375 Registry. Having fonts or bitmaps could help eliminate the readability problem.

10. Does ISO 2375 allow duplicate registrations of the same code page?

    The first bullet of clause B.6.2 seems to imply that duplicate registrations are allowed.

Requested Action

I ask that WG 3 review these comments at its September, 1999 Meeting in Denmark and decide how to accommodate them in the next draft of ISO/IEC 2375.

[END OF DOCUMENT]

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Edwin F. Hart
edwin.hart@jhuapl.edu

TITLE PAGE

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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 nongovernmental, 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 JTC1. Draft International Standards adopted by the joint technical committee are circulated to the member 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 2375 was prepared by Joint Technical Committee ISO/IEC JTC1, Information technology, Subcommittee SC2, Coded character sets.

Introduction

~~There are internationally agreed codes~~International standard codes have been adopted for the interchange of information ~~among data~~ between information processing systems and within message transmission systems. However, circumstances occur where applications require additional characters not included in international standard codes.

Provision for additional characters is made by code extension techniques in which the additional characters or character sets are identified by escape sequences. The procedures for code extension and the structure and use of escape sequences are fully documented in ISO/IEC 2022. The latter defines classes of escape sequences, but does not assign specific meanings to individual escape sequences.

This International Standard specifies the procedures to be followed in preparing and maintaining a register of specific escape sequence meanings. The purpose of this register is to inform all concerned of character sets already developed and of the specific escape sequences allocated to them.

The publication of the register should promote compatibility in international information interchange and avoid duplication of effort in developing application-oriented character sets. Registration provides an identification for a character set but should not be regarded as a standardization procedure. Nevertheless, as a matter apart from registration, the character set may, but need not, be the subject of an international, national, or other standard. When such a standard is prepared subsequent to the registration of an escape sequence, it would be appropriate for the escape sequence identifying the character set to be specified in the standard.

Information technology —
Procedure for registration of escape sequences and coded character sets

1 Scope

This International Standard specifies the procedures to be followed by a Registration Authority in preparing, maintaining, and publishing a register of escape sequences and of the characters or character sets they identify.

2 Field of application

2.1 ~~The~~ISO/IEC 2022 describes the escape sequences ~~to which~~ referenced in this International Standard ~~refers to are those described in ISO/IEC 2022,~~ with the exception of escape sequences described in ISO/IEC 2022 but reserved ~~that International Standard as being~~ for private use.

2.2 The use of these escape sequences includes code extension, that is, the provision of additional sets of characters, or of additional control functions in accordance with ISO/IEC 2022.

2.3 An escape sequence registered in accordance with this International Standard shall serve as an identification of the character, the set of characters, or the control function associated with it in the register. Apart from such identification, registration shall not affect the status of the character, the set of characters, or the control function concerned. [QUESTION: What is the intent of this last sentence?]

3 Normative references

ISO/IEC 646, 199x: Information processing – ISO 7-bit coded character set for information interchange.

ISO/IEC 2022: 1994, Information technology – Character code structure and extension techniques.

ISO/IEC 4873: 1991, Information technology – ISO 8-bit code for information interchange – Structure and rules for implementation.

ISO/IEC 6937 (clause B.1.7)

ISO/IEC 10646-1: 1993, Information technology – Universal Multiple-Octet Coded Character Set (UCS) – Part 1: Architecture and Basic Multilingual Plane.

Definitions

Combining characters

Code table

Complete coding system (B.1.5)

[code] position (B.1.6)

4 Registration Authority

4.1 The Registration Authority shall be an organization nominated by the ISO/IEC JTC1 subcommittee concerned with coding and appointed by ISO/IEC JTC1 to act as the Registration Authority for the purpose of this International Standard.

4.2 The Registration Authority shall maintain a register of the meanings assigned to escape sequences. The contents of this register shall be available upon request to ISO/IEC member bodies, to liaison organizations of ISO/IEC and to any interested party.

4.3 The registration documents do itself does not specify the rules in accordance with which a character or character sets identified by an escape sequence must be used. Rather, the registration shall specify the documents, for example, the standards, specifying such rules. The documents, for example, standards, specifying such rules shall be specified in the registration documents.

5 Registration procedure

5.1 With regard to the initial assignment of meanings to escape sequences and of subsequent additions to the register, the responsibilities of the Registration Authority shall be as follows.

5.2 The Registration Authority shall receive from sponsoring authorities proposals for meanings to be assigned to escape sequences.

5.3 The Registration Authority shall ascertain that the proposals received are formally in accordance with this International Standard, technically in accordance with ISO/IEC 2022, and, where applicable, with ISO/IEC 646 and ISO/IEC 4873; it shall ascertain that the proposals received meet the presentation practice of the the Registration Authority.

NOTE: Complete coding systems registered need not be in accordance with ISO/IEC 2022; see clause B.1.5. It is the escape sequence which must be in accordance with ISO/IEC 2022.

5.4 The When required, the Registration Authority shall, where required, to indicate to the Sponsoring Authority the changes needed to meet the requirements of 5.3 above.

5.5 The Registration Authority shall circulate the proposals first to the members of the Joint Advisory Committee as specified in clause 6, and subsequently shall circulate the proposals to the members of the coding subcommittee for a three-month information and comment period.

5.6 The Registration Authority shall consider comments received and, when appropriate, shall incorporate them in the final document.

5.7 The Registration Authority shall assign the escape sequence.

5.8 The Registration Authority shall promulgate to all the member bodies and liaison organizations of ISO/IEC JTC1 the meaning that has been assigned to each escape sequence.

6 Review procedure

6.1 Review is a formal procedure by which ~~a proposed registration is examined by~~ the Registration Authority's Joint Advisory Committee (RA-JAC) <u>examines a proposed registration</u> for technical suitability prior to circulation to members of the coding subcommittee as specified in clause 5.5.

6.2 The RA-JAC shall be constituted as specified in annex D.

6.3 The RA-JAC shall ~~determine whether or not~~ <u>verify which proposed coded characters correspond</u> ~~characters proposed map to existing~~ <u>to</u> characters <u>coded in</u>~~s~~ ISO/IEC 10646.

6.4 The RA-JAC shall note the (U+)xxxx (or (U~~-~~+)xxxxxxxx) code position of each <u>proposed</u> character ~~in the proposal which~~ <u>that</u> has a corresponding character in ISO/IEC 10646. <u>[ISSUE: Should the RA-JAC do this or should the Sponsoring Authority be responsible for documenting the correspondence? Certainly, the RA-JAC should review them. In addition, the RA-JAC may be requested to help the Sponsoring Authority. However, I think that it is unreasonable to expect the RA-JAC to be responsible for documenting the correspondence for every character in a proposed registration. Ed Hart]</u>

NOTE: It is strongly recommended that the Sponsoring Authority assist the RA-JAC by providing a proposed ISO/IEC 10646 mapping. [QUESTION: Who has the ultimate right of character identification? The RA-JAC or the Sponsoring Authority? What if a Sponsoring Authority disagrees with the current unification of Coptic with Greek or of CYRILLIC KU with LATIN Q? We have seen (EZH and YOGH) that the unifications are sometimes abandoned.]

6.5 The RA-JAC shall determine whether or not character names proposed conform to the names of existing characters in ISO/IEC 10646. Where a character has been identified as being identical to a character encoded in ISO/IEC 10646, but where the name proposed does not conform to the name for that character in ISO/IEC 10646, <u>to ensure conformity</u> the RA-JAC shall propose the amendment of that name <u>to the name used in ISO/IEC 10646</u> ~~in order to ensure conformity~~. <u>[ISSUE: How is the character name affected by the existence of editions of ISO/IEC 10646 in languages other than English?]</u>

NOTE: It is strongly recommended that the Sponsoring Authority ensure that the names of characters mappable to ISO/IEC 10646 characters conform to the names used in ISO/IEC 10646. Where the name of ISO/IEC 10646 differs in the source standard, it is recommended that the ISO/IEC 10646 name be provided in parentheses following the source name.

<u>[ISSUE: Should the RAG identify proposed characters that are not is ISO/IEC 10646 to SC 2/WG 2? Clearly, the RAG should not identify every character not already coded in ISO/IEC 10646, for example, with the TC 46 registrations where WG 2 and TC 46 decided not to code certain characters into ISO/IEC 10646.]</u>

7 Withdrawal procedure

7.1 Withdrawal is a formal declaration by which the Sponsoring Authority informs the Registration Authority that it withdraws its support of the proposal.

7.2 Such a declaration may, but need not, be accompanied by a statement of the reasons for the withdrawal.

7.3 The Registration Authority shall inform the interested parties of the reception of such declarations <u>by noting the withdrawal on the registration</u>.

7.4 Withdrawal has no effect on the registered proposal; it~~which~~ shall remain in the register and continue to be identified by the allocated escape sequence.

8 Correction procedure

8.1 The Registration Authority shall correct M~~m~~aterial errors, ~~as~~ for example typographical errors and glyph errors, ~~shall be corrected by the Registration Authority~~ as soon as detected.

8.2 ~~New~~ The RA shall issue new corrected and dated pages of the register. ~~shall be issued~~.

9 Revision procedure

9.1 In general, no changes to registrations are permitted, as this would be contrary to the principles on which the registration is based. An exception to this is the case of upwardly-compatible versions as specified by ISO/IEC 2022.

9.2 The Registration Authority may exceptionally grant a waiver to international, governmental organizations issuing internationally recognized and world-wide implemented standards. However, for these types of registrations, the first application papers and the register shall mention the possibility that such a registration may be modified in the future without the allocation of a new escape sequence ~~shall be mentioned in the first application papers and in the register~~.

10 Appeal procedure

10.1 Appeal by a Sponsoring Authority can be made in the following instances.

[Concern: Clause 10.1 has a lot of repetition. Can we simplify this clause? Basically, either the Sponsoring Authority or 4 Member Bodies of the SC can make the appeal. The basis of the appeal must be either clause 5.3 or clause 9.2.]

10.1.1 The Registration Authority will accept appeals only from the Sponsoring Authority, or from the subcommittee responsible for codes and character sets if at least four member bodies of the subcommittee object to a forthcoming publication of a registration by the Registration Authority.

10.1.2 The only acceptable reasons for appeals to the Sponsoring Authority are either

- a disagreement with the Registration Authority on whether the application meets the requirements of clause 5.3, or

- the Registration Authority refuses to grant a waiver according to clause 9.2.

~~**10.1.1** Appeal by a Sponsoring Authority can be made if it disagrees with the Registration Authority on whether the application meets the requirement of clause 5.3.~~

~~**10.1.2** Appeal by a Sponsoring Authority can be made if the Registration Authority refuses to grant a waiver according to 9.2.~~

~~**10.1.3** Appeal by a Sponsoring Authority can be made if at least four member bodies of the subcommittee concerned with coding object to a forthcoming publication of a registration by the~~

~~Registration Authority, but solely on the ground of an assertion by those member bodies that the requirements of clause 5.3 are not met.~~

~~**10.1.4** Appeal by a Sponsoring Authority can be made if at least four member bodies of the subcommittee concerned with coding object to a decision of the Registration Authority to grant a waiver according to 9.2.~~

10.2 Appeals shall be filed with the Registration Authority by registered mail [IS THE REGISTERED MAIL STIPULATION REQUIRED OR SHALL IT BE MODIFIED?]

- either within 30 days of reception of the refusal of the Registration Authority, or

- before the end of the circulation period [TO WHOM? THE RA-JAC OR THE MEMBER BODIE?] according to clause 5.5.

10.3 Appeals shall be submitted by the Registration Authority within 30 days, after receipt in the case of 10.1.1 or 10.1.2, or after the end of the circulation period in the case of 10.1.3 or

10.1.4, to the members of the Joint Advisory Committee (see annex D). If the matter cannot be resolved by the Joint Advisory Group the appeal will be submitted to the P-members of the subcommittee responsible for codes and character sets for vote according to clause 3.4.2 of part 1 of the Directives for the technical work of ISO. [CHECK THIS REFERENCE; DOES IT APPLY TO JTC1 PROCEDURES? If applicable, then the current version of the JTC 1 procedures with date needs to be included as a normative reference.]

11 Sponsoring Authorities

11.1 Proposals concerning the meanings of escape sequences may be made by the following, which for the purposes of this International Standard are Sponsoring Authorities:

- any ISO or IEC technical committee or subcommittee;

- any group within the ISO/IEC subcommittee concerned with coding in information processing, appointed by the subcommittee for purposes connected with code extension or the use of escape sequences;

- any member body of ISO or IEC;

- any international organization having liaison status with ISO/ or IEC or with any of ~~its~~ their respective technical committees or subcommittees.

SHOULD A DISTINCTION BETWEEN "ISO/IEC" AND 'ISO and IEC" BE MADE HERE? Yes, use "ISO and IEC".

NOTE: In the instance of proposals concerning single additional control functions to be represented by the F_s escape sequence (see ISO/IEC 2022), the only Sponsoring Authority ~~may only~~ shall be the coding subcommittee (see annex C). This is necessary because of the extremely limited number of escape sequences available for that purpose.

11.2 The responsibilities of a Sponsoring Authority shall be as follows.

11.2.1 A Sponsoring Authority shall receive proposals concerning the meanings of escape sequences from within its respective countries or organizations.

11.2.2 A Sponsoring Authority shall effect such ~~rationalization~~ justification or ~~justifications~~ coordination of these proposals as it may desire.

NOTE: This International Standard requires only that an application for registration meets the requirements of clause 5.3. But a Sponsoring Authority is free to specify additional requirements to be met ~~in order~~ to receive its support.

11.2.3 A Sponsoring Authority shall forward to the Registration Authority those proposals that have its support.

11.2.4 A Sponsoring Authority shall make known within its respective country or organization the outcome of the registration procedure.

~~NOTE: This International Standard requires only that an application for registration meets the requirements of clause 5.3. But a Sponsoring Authority is free to specify additional requirements to be met in order to receive its support.~~

11.3 ~~Proposals~~The Sponsoring Authority shall ~~be~~ forward~~ed~~ proposals to the Registration Authority on ~~a standard~~ the prescribed [note: ISO/IEC does not prescribe a "standard" for the form.] form, the layout of which shall be available from the Registration Authority. (Annex E contains samples of the prescribed forms.)

Annex A

(normative)

Registration Authority

A.1 The Registration Authority shall be an organization actively participating in the work of the subcommittee concerned with coding. In particular a technical officer or officers of the Registration Authority shall attend the meetings of the subcommittee and of the working group(s) involved with the work on ISO/IEC 646, ISO/IEC 2022, ISO/IEC 4873, ISO/IEC 8859, ISO/IEC 10646, and on other coding standards where required.

A.2 The Registration Authority shall maintain an updated list of the ~~owners~~ interested parties of the International Register. New registrations and any other pertinent communication concerning the register shall be sent to all persons or organisations on this list. The Registration Authority may request from time to time that ~~owners~~ the interested parties confirm their continuing interest in receiving new registrations and may drop from the list those having not confirmed such interest.

A.3 The Registration Authority shall maintain an explanatory document called "Practice of the Registration Authority" available upon request to all interested parties. It shall specify the presentation requirements for applications for registration, for example fonts for the code table, terminology, identification of unused positions, etc., so as to ensure a uniform presentation of all registrations, thus making comparison among them easier.

Annex B

(normative)

International Register

B.1 Registration Documents

B.1.1 Layout

The International Register (IR) shall be issued in loose-leaf and electronic formats. Each registration shall comprise the following parts, as applicable, depending on the type of registration.

B.1.1.1 Cover page

The cover page shall list:

- the type of registration;

- the registration number;

- the date of registration;

- the allocated escape sequence;

- a short name for the character or character set;

- a short description;

- the Sponsoring Authority;

- the origin or originator of the character or character set;

- a general indication of the intended field of application.

Where applicable, the standard(s) of which the character set is a part shall be mentioned in the short description or under "origin".

B.1.1.2 Code tables

B.1.1.1.1 Graphic character sets

The layout of the code table shall be that given in annex E.1, E.2, and E.3 (derived from that of ISO/IEC 646 and ISO/IEC 4873, respectively). For multiple-byte sets, multiple code tables of 16 rows by 16 columns a suitable layout shall be used.

B.1.1.1.2 Control functions

For C0 sets the layout of the tables shall be that given in annex E.4 (derived from columns 0 and 1, and 00 and 01 of ISO/IEC 646 and ISO/IEC 4873, respectively). For C1 sets the two-

character escape sequences of type ESC F$_s$ shall be listed for 7-bit coding. For 8-bit coding the table shall be that given in annex E.5 (derived from columns 08 and 09 of ISO/IEC 4873).

B.1.1.3 Character names

B.1.1.3.1 The next pages of registrations of graphic character sets shall list all positions and indicate the name of the character allocated to each position. The next pages of registrations of control character sets shall list the control functions of the set indicating their name and their definition.

B.1.1.3.2 Unused positions shall bear the mention "(This position shall not be used)". In interchange the presence of the bit combinations corresponding to these positions shall be an error condition.

B.1.1.3.3 Short notes may be added to the registrations of graphic character sets only where absolutely required for the understanding of the registration.

B.1.1.3.4 "Combining characters" (as defined in ISO/IEC 10646) shall be identified as such in a note.

B.1.2 Use with other registered sets

If a registered set is intended for use in combination with one or more other registered sets, this shall be indicated.

B.1.3 Subsets and supersets

If a registered set is intentionally a subset or a superset of one or more other registered sets, this shall be indicated.

B.1.4 Revised standards

When a registered set is based on a standard that is subsequently revised, and additional page to the original registration shall be issued to identifying the new registration. [Do we need to repeat the idea that the revised standard is upwardly compatible with the old standard? The most recent (1991) IRV of ISO/IEC 646 was not upwardly compatible with the previous IRV.]

B.1.5 Complete coding systems

Registration of complete coding systems [QUESTION: What is a "complete coding system"?] other than those of ISO/IEC 2022 may, but need not, comprise only the cover page. The cover page shall indicate whether the return escape sequence ESC 2/5 4/0 applies. Registration of a complete coding system requires that the proposed registration either identify the publicly available document that describes the complete coding system, or include the code table and list of character names. If the registration does not include the code table and list of character names, the cover page shall also indicate from where a publicly available document, available publicly, describing the complete coding system can be obtained. No complete coding system can be registered unless such a document exists and is identified unless the registration includes the code table and list of character names.

NOTE: A complete coding system may be a character set not in accordance with ISO/IEC 2022.

B.1.6 Identical sets

If a new application for registration contains a set of characters identical with an already-registered set, it shall not be registered, as its set will already have been identified by an escape sequence. Two sets are deemed to be identical if

- the number of characters is the same;

- the names of the characters are the same according to the terminology of the Registration Authority;

- the same code positions (values) are used for the same characters;

- both sets are of the same type, in particular both a C0 or a C1 set;

- the definitions of control characters are functionally equivalent (a more restricted definition is not considered equivalent);

- graphic characters have the same geometric shape apart from aesthetic variations between fonts;

- any "non-spacing" or "combining" characters are in the same positions.

B.1.7 Repertoire

For graphic character sets the registration specifies only the characters of the set and their coded representations, as shown in the code table of the registration. It does not specify a repertoire of characters which can be obtained by combining the characters of the set, for example by means of sequences of BACKSPACE and "nonspacing characters" (for example, as defined in ISO/IEC XXXXX6937) or by means of sequences of base characters and "combining characters" (as defined in ISO/IEC 10646).

B.2 Allocation of final characters

Final characters shall be allocated by the Registration Authority in ascending order. This allocation will only be made immediately prior to publication of the registration, that is, after completion of all procedural steps. No final character(s) can be reserved for future applications.

A final character once allocated to a registered character or character set can never be re-allocated to another character or character set.

B.3 Identification of Registration

Registrations should be identified by "ISO-IR" followed by a space and the registration number.

Examples:

ISO-IR 16

for the particular ISO/IEC 646 version for the Portuguese language registered on 1976-12-30.

ISO-IR 48

for the set of control functions registered on 1981-07-15.

Identification using the contents of fields "name" and "origin" of the cover page should preferably be avoided, unless the "origin" field specifies a national or International Standard.
[QUESTION: What is the intent of this sentence? Is it:
Unless the "origin" field identifies a national or International Standard, avoid using the "name" and "origin" fields on the cover page to identify the registration.]

B.4 Withdrawn registrations

When a registration has been withdrawn in accordance with clause 7 of ISO/IEC 2375, the Registration Authority shall inform all interested parties by issuing a new page of the International Register ~~sent to new owners~~ after the date of withdrawal. The withdrawn registration shall remain in the International Register.

B.5 Multiple registrations for the same application

B.5.1 Any Sponsoring Authority is entitled to apply for registration of a character set for a given application, for example a programming language or a natural language, whether or not a registration already exists, even if it originates from a national or International Standard.

B.5.2 The fact that a registration for exactly the same field of application exists cannot be a reason for objection to the new registration.

B.6 Valid grounds for appeals

B.6.1 The valid grounds for an appeal against a decision of the Registration Authority or a forthcoming publication of a registration application are listed in clauses 10.1.1, 10.1.2, 10.1.3, and 10.1.4~~. of ISO/IEC 2375.~~ [Note: if the editor accepts the proposed simplification of clause 10.1, then remove the reference to clauses 10.1.3 and 10.1.4.]

B.6.2 Appeals based on other reasons shall ~~not~~ be considered invalid and shall be disregarded. In particular the following objections shall ~~not~~ be considered invalid:

- there is one or more registrations for identically the same purpose; [ISSUE: Is this not a duplicate registration? I thought that duplicate registrations were not permitted.]

- the registration is incompatible with International Standards, whether or not a character from these International Standards is registered;

- an allegation is made that that the technical content of the registration does not achieve its alleged purpose;

- the "origin" field contains the name of a commercial organization or a trade mark;

- editorial comments are rejected by the Registration Authority

B.6.3 A Sponsoring Authority having specified requirements for its support in addition to those of ISO/IEC 2375 may include requirements of the above type in its own set of requirements. This

matter shall be ~~dealt with~~ handled by each Sponsoring Authority and not by the Registration Authority.

Annex C

(normative)

Criteria for the allocation of ESC F$_s$ sequences

C.1 ISO/IEC 2022 provides for a very limited number of ESC F$_s$ sequences. Priority in the allocation of ESC F$_s$ sequences will be given to control functions used for general code extension purposes.

C.2 Other candidates for ESC F$_s$ representation should be of a general nature with broad applicability. The action of such control functions should be largely independent of the graphic or control character sets invoked at the time.

C.3 The control function should be logically independent from other control functions, except if it forms one half of a complementary pair, for example in an ON/OFF action.

C.4 Only the subcommittee concerned with coding shall be the Sponsoring Authority for single control functions represented by ESC F$_s$. Any candidate for such allocation shall first be submitted to this subcommittee under clause 11 of this International Standard as a Sponsoring Authority for escape sequences other than ESC F$_s$.

C.5 Any proposal for a new ESC F$_s$ sequence shall include (a) a complete definition of the control function with an indication of the overall environment in which it will be used. and (b) A justification for the need for a specially efficient coding of the control function shall also be submitted.

Annex D

(normative)

The Registration Authority's Joint Advisory Committee (JAC)

D.1 The subcommittee concerned with coding shall set up a Joint Advisory Committee of five members.

D.2 The RA-JAC shall consist of a representative of the Registration Authority and four other members elected by P-members of the subcommittee. These members may be members of the subcommittee or members of one or more bodies with a liaison relationship to the subcommittee. At least one of the members of the RA-JAC shall represent the Unicode Technical Committee. [ISSUE: Although it would be valuable to have a representative from Unicode, is it really necessary? Could not someone from Unicode be consulted as needed? Also, the RA-JAC may need assistance from the WG 2/IRG for proposed registrations of ideographic characters. I am not sure that we want to require one member from Unicode and one member from the IRG to the RA-JAC.] The members of the RA-JAC shall be appointed or confirmed at each plenary meeting of the subcommittee.

D.3 The task of the RA-JAC shall be as follows.

D.3.1 The RA-JAC shall review each application for registration according to clause 6 of ISO/IEC 2375.

D.3.2 The RA-JAC shall consider appeals received by the Registration Authority.

D.3.3 The RA-JAC shall act as mediator between the Registration Authority and the appealing parties.

D.3.4 The Registration Authority shall yield if four-fifths of the members of the RA-JAC consider the appeal justified.

D.3.5 The RA-JAC shall, when required, edit the documents to be submitted to a vote according to clause 10.3 of ISO/IEC 2375. [QUESTION: How much work does this mean for the RA-JAC? I would recommend that such work be done by the Sponsoring Authority because the SA has the interest in the registration rather than forced upon the volunteers on the RA-JAC.]

Annex E

(normative)

Layout of code tables

[Comment: I am glad to see this material incorporated from the ECMA document. However, I would recommend that the information for the individual bits be removed. At this time, I believe that most users of the standard should not need the bit values of the numbers of the rows and columns.]

E.1 7-bit graphic character sets: G0 set

E.2 7-bit graphic character sets: G1 set

E.3 8-bit graphic character sets:

E.4 C0 control function sets

E.5 C1 control function sets

Annex F

(informative)

Principal differences between this fourth edition of ISO/IEC 2375 (1999-03-23) and the third edition of ISO 2375 (1985-11-01)

- Clauses have been renumbered.

- A new clause 6 "Review procedures" has been added.

- Layouts of the code tables in annex B are no longer specified by reference to external standards but are instead presented in annex E.

- The term "non-spacing character" has been updated to the term "combining character" in B.1.1.3, with reference to ISO/IEC 10646.

- The possibility to attach code tables and names to registration of complete coding systems has been added to B.1.5.

- 10.1.3 includes the new text "of an assertion by those member bodies".