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TITLE: Editor's notes to DIS 11404: Information Technology - Programming languages, their environments and system software interfaces - Language-independent datatypes

SOURCE: Secretariat ISO/IEC JTC1/SC22

WORK ITEM: JTC1.22.17

STATUS: New

CROSS REFERENCE: N1305, N1575

DOCUMENT TYPE: Editor's note

ACTION: For information to SC22 Member Bodies. DIS 11404 will be circulated by ISO/IEC ITTF.
B. Annotations to Changes

In this draft, all text changes from the Second Committee Draft are indicated by "change bars" in the document margins.

B.1 Abbreviated references

[CAN n]: change resulted from comment 'n' from Canada.
[NZ n]: change resulted from comment 'n' from New Zealand.
[SWE n]: change resulted from comment 'n' from Sweden.
[UK n]: change resulted from comment 'n' from the United Kingdom.
[US n]: change resulted from comment 'n' from the United States.

[RFC n.n.]: change made to align with RFC/LIPF, by agreement 'n.n.' reached in Cambridge, documents SC22/MG11 N353 and N360.

[SC2]: change resulted from comments from the SC2 liaison, document SC22/MG11 N350.

[ITTF]: refers to editorial changes made to conform to ITTF requirements.

[NG]: refers to other editorial direction given by the working group.

B.2 Global changes

1. All references to the 'ordering' relationship changed to 'order'. [NG]
2. All references to 'parameters' of a datatype or generator have been changed to 'parametric datatypes' and 'parametric values', and the syntactic objects to 'formal-parametric-type' and 'formal-parametric-value', except in clauses 8.5 and 9.1. In clauses 8.5 and 9.1, a generic syntactic object is needed - an 'actual-type-parameter' in 8.5 and a 'formal-type-parameter' in 9.1. The term 'component datatype' has been retained as a synonym for 'parametric datatype'. [Ed, NG, because of change 3]
3. All occurrences of the term 'argument' have been changed to 'parameter' and, except for syntactic objects in 8.5 and 9.1, 'parameter' now refers only to procedure parameters. [NG, to align with LIPF and RFC]
4. All occurrences of 'this draft International Standard' changed to 'this International Standard'. [ITTF]
5. Document reformatted to ITTF (A4) specifications. [ITTF]
B.3 Changes by clause:

Foreword, now.

1. Made from ISO template and the appropriate text of the former
   "Foreword". [ITTF]

Introduction, former "Foreword".

Renamed to conform to ISO requirements. [ITTF]

2. Conformance, former clause 5 "Compliance"

Moved and renamed. [ITTF]

2.1 Direct Conformance, former 5.1

Provisions reordered. (NG)

Provision 111 clarified. (NG)

2.2 Indirect Conformance, former 5.2

Note 1 added. (UK 2)

3. Normative References, former 2

ISO 8601 reference corrected. [NG 1]

4.1 actual parametric type, formerly 3.1

The word "parametric" was added as part of the "parameter"

terminology change. [Ed.]

4.2 actual parametric value, formerly 3.2

The word "parametric" was added as part of the "parameter"

terminology change. [Ed.]

4.11 Definition of Datatype, former 3.11

Reworded. (UK 1)

4.12 formal parametric type, formerly 3.10

The word "formal" was added as part of the "parameter"

terminology change, resulting in a change in the alphabetical

order. [Ed.]

4.19 formal parametric value, formerly 3.31

The word "formal" was added as part of the "parameter"

terminology change, resulting in a change in the alphabetical

order. [Ed.]

4.32, parametric datatype, formerly 3.30

Redefined to match new usage (no longer syntactic). [Ed.]

5.1 Form Syntax, former 4.1

All references to "marks" corrected to align with ISO/IEC

10646-1. [NG 2]

Table 5-1 changed to describe Notation. (SC2)

6.1 Datatype

Definition copied from revised 3.11.

Additional text and notes on characterizing operations added.

[UK 1]

6.8.5 Access Method

Relationship of indexing to ordering clarified. (US 1)

7. Elements of the language

Reference to LPC corrected [Ed. 1].

7.1 IDN Character-Set

Subclause renamed to clarify relationship to clause 4.1.

[SME 2]

References to ISO/IEC 10646-1 corrected. [SME 3]

Table of IDN characters moved from clause 4. [SME 2]

Angle brackets changed back to square brackets. [RFC 2.3]

7.2 Lexical objects

Definition corrected. [RFC 2.2]

7.3 Keywords

Subclause made from last paragraph of 7.3.1 and extended to
define reserved words. [RFC 2.2]

7.4 Annotations

Delimiters changed to square brackets. [RFC 2.3]

7.5 Values

(formal)-parametric-value made an alternative of

value-expression (not independent-value). [RFC 2.14]

7.5.1 Independent Values

"Qualified-value" deleted, and all references to it.

[RFC 2.18]

Syntax rules and corresponding text for explicit-value

corrected and simplified. [RFC 2.14]

Notes 1 and 2 revised to remove "qualified value".

[RFC 2.18]

8.1.2 State

Reference to qualified-value removed. [RFC 2.18]

Note added. [RFC 2.18]

Example (Switch) added. [US 8]

8.1.3 Enumerated

Reference to characterizing operations in the definition

structure. (NG)

Reference to qualified-value removed. [RFC 2.18]

Note added. [RFC 2.18]

8.1.4 Character

Example rewritten to coincide with SG2 usage. (UK 2)

Reference to ISO/IEC 10646-1 corrected. [SME 3]

Reference to Latin alphabet No. 1 corrected. [NG 4]

Handling of multiple repertoires reworded. (US 3)

Character-name syntax modified to require the space

separator. [SG2]

Note 5 added. [SG2]

Object-identifier in example corrected. [Ed.]

8.1.6 Date and Time.

Value-syntax requirements modified to coincide with


former 8.1.7 Bit

Moved to 10.1.1 and defined as modulo(2). (US 5)

8.1.7 Integer, former 8.1.8

Promote [64 bit] removed from characterizing operations.

[US 5]

8.1.9 Scaled, former 8.1.1
Examples numbered. [Ed.]

Example 1 elaborated to contain a proper definition of currency. [US 11]

8.2.1 Range
   Column between base and range keyword removed. [RFC 2.19]

8.2.2 Selecting
   Column between base and selecting keyword removed. [RFC 2.19]

8.2.3 Excluding
   Column between base and excluding keyword removed. [RFC 2.19]

8.2.4 Extended
   Column between base and plus keyword removed. [RFC 2.19]
   Note 2 added. [RFC 2.18]

8.2.5 Size
   Column between base and size keyword removed. [RFC 2.19]

8.2.6 Subtype
   Column between base and subtype keyword removed. [RFC 2.19]

8.3.1 Choice
   Syntax changes to align with RFC. [RFC 2.9]
   Requirement for alternative values to cover the tag type removed, corresponding changes to definition of the value space. [RFC 2.10]
   CoType replaced by Discriminant, related changes to Cast and Equal. [US 6]
   Former Note 2 deleted by the inclusion of discriminant in the syntax. [RFC 2.9]
   New Note 2 added. [RFC 2.10]
   Note 4 and 5 added. [US 6]
   Example (Optional) added. [NG 1]

8.3.2 Pointer
   Note added. [US 7]

8.3.3 Procedure
   Argument names made optional (again), because the syntactic ambiguity has been removed. [RFC 2.19]
   *argument* changed to "parameter" in all cases. [WG]

8.4.1 Record
   Property list split. [Resolution of US 1]

8.4.2 Set
   Properties corrected to exact. [Resolution of US 1]
   Property list split. [Resolution of US 1]

8.4.3 Bag
   Properties corrected to exact. [Resolution of US 1]
   Property list split. [Resolution of US 1]

8.4.4 Sequence
   Property list split. [Resolution of US 1]

8.4.5 Array
   Property list split. [Resolution of US 1]
   Note added. [Resolution of US 1]

8.4.6 Table

Redescribed to support the SQL notion of table. [US 21]

Liaison statement from SC21/WG2 (Databases) (SC21/WG2 N1452).

Property list split. [Resolution of US 1]

Notes added to explain the relationship to SQL. [US 2]

8.5 Defined datatypes
   *actual-parameter* changed to *actual-type-parameter*. [see global change 2]

9.1 Type declarations
   *formal-parameter* changed to *formal-type-parameter*. [see global change 2]

10.1 Defined Datatypes
   Option (3) - qualified-value - for defined-datatypes removed. [RFC 2.18]
   Option (2) revised to cover all other cases. [Ed.]
   Option (2) corrected to match value syntax changes. [RFC 2.14]

former 10.1.1 Switch deleted. [US 8]

10.1.1 NaturalNumber is former 10.1.2 Cardinal renamed. [US 9]

10.1.2 Modulo, former 10.1.5.
   Moved to define modulo before Bit. [US 5]

10.1.3 Bit
   Moved from 8.1.7, with changes to declaration syntax. [US 5]

10.1.5 Character String, former 10.1.4
   Changed to unordered. [CAN 1]
   Note added. [US 10]

former 10.1.6 Currency deleted. [US 11]

10.1.6 TimeInterval is former 10.1.7 Interval renamed. [US 12]

10.1.7 Octet

10.1.8 OctetString. Now.
   Added to convey enclashes which are not bit-strings, such as characters. [SC2]

10.1.9 Private.
   Parameter *size* changed to "length", *size* is reserved. [Ed.]

10.1.10 Object-Identifier.
   Syntax extended to incorporate repertoire-identifiers. [RFC 2.6]

former 10.1.11 Distinguished Name deleted. [US 13]

former Clause 11. Support of Datatypes, moved into former Clause 12 Mappings, becoming 11.4. [WG]

11.4 Support of Datatypes.
   Definition of support clarified. [Resolution of US 1]
   Note added. [Resolution of US 1]

Annex A.
   Text completely replaced. [SC2]
   Note on limitations of character-set standards added. [CAN 1]

Annex D.
Text updated. [Ed.]

former E.1.7 bit moved to E.4.1 to correspond to changes to clause 8. [US 5]

E.4.1 Bit. former E.1.7. [US 5]

E.2.9 Table. restructured to match 8.4.6. [US 2]

former E.4.6 Distinguished-Name deleted. [US 11]

Annex F. Text completely reorganized. [Paris resolution, unimplemented in CD.]

Minor editorial changes, to replace "CLID" with "LI Datatypes" and the like, are marked but not noted here.

Issue 3, former issue 21.
Revised to use "annotation" terminology. [RPC]

Issue 16, former issue 1.
Extended to reflect the Paris decision on the common IDN. [RPC]

Issue 11, former issue 26.
Wording revised to reflect SC2 comments. [SC2]

Issue 17, former issue 21.
Wording revised to reflect new type and value names and resolution of [NZ 1].

Issue 10, former issue 11.
Wording revised to reflect resolution of [NZ 1].

Issue 9, former issue 16.
Set issue separated. [Ed.]

Issue 21, former issue 23.
Revised to fix syntax and align with RPC discussions. [Ed.]

Issue 26, former issue 16.
Selecting issue separated. [Ed.]

Issue 27, new.
Created from former issue 16 to explain the related decision for Bag. [Ed.]

Issue 32, former issue 8.
Revised to match changes to Bit, Switch, etc. [US 5] [US 8]

Issue 34, former issue 24.
Revised to separate Character from Character-String. [Ed.]

Issue 38, new.
Resolution of [US 1].