S100WG6-X.XX

**Title: Datatype Formats**

S-100 Maintenance - Change Proposal Form

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| --- | --- | --- | --- |
| **Organisation** | Portolan Sciences LLC | **Date** | 3-Nov-2021 |
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Change Proposal Type *(Select only one option)*

|  |  |  |
| --- | --- | --- |
| 1.Clarification | 2.Correction | 3.Extension |
| X |  |  |

Location (*Identify all change proposal locations)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | S-100 Version No. | Part No. | Section No. | Proposal Summary |
| 1 | 4.0.0 | 1 | 4.5.1 General considerations | Add paragraph saying data formats can use representations appropriate to the format. |
| 2 |  | 1 | 4.5.2  Table 1-2 Date | Add at the end of the Description:  In XML, the built-in format can be used instead of the ISO 8601 basic representation.  EXAMPLE: 1998-09-18 |
| 3 |  | 1 | 4.5.2  Table 1-2 Time | Add at the end of the Description:  In XML, the built-in format can be used instead of the ISO 8601 basic representation.  EXAMPLES: 18:30:59Z, 18:30:59+01:00, 18:30:59 |
| 4 |  | 1 | 4.5.2  Table 1-2 DateTime | Add at the end of the Description:  In XML, the built-in format can be used instead of the ISO 8601 basic representation.  EXAMPLE: 1985-04-12T10:15:30 |

# Change Proposal

XML Schema requires hyphen and colon separators in date and time. The XML types are used throughout the ISO schemas, GML, and S-100 metadata. S-100 Table 1-2 mentions only the "basic format" which is incompatible with XML but appears to be causing some confusion in comparison with formats and examples in XML formats, including metadata and GML.

Changing the S-100 XML schemas to use strings with pattern restrictions in place of the XML built-in types is not feasible. With the built-in types, proper validation can be done automatically with off-the-shelf XML validation capabilities in software. Also, the XML built-in types are pervasive in the ISO and OGC GML schemas too and must be retained for compatibility with ISO and OGC formats especially metadata and GML.

No revisions to existing schemas or product specifications are needed.

## *Item 1 (new text in red)*

## 1-4.5.1 Primitive types

The basic data types are grouped into two categories:

1) Primitive types: Fundamental types for representing values, for instance CharacterString, Integer, Boolean, Date, Time, etc.

2) Complex types: A combination of types, for instance a combination of measure types and units of measurement.

The repertoire of basic data types is described in the following sub-clauses.

S-100 data formats may represent values using appropriate built-in or standard types. For example, the ISO 8211 format (Part 10a) represents the values of all thematic feature attributes in strings instead of using the ISO 8211 signed integer, unsigned integer, or signed floating point representations for thematic attributes of S-100 type Integer or Real.

# Change Proposal Justification

This clarification is needed to remove a source of misunderstandings in the implementation of S-100.

What parts of the S-100 Infrastructure will this proposal affect?

S-100 Feature Concept Dictionary Interface or Database

S-100 Portrayal Register

S-100 Feature Catalogue Builder

S-100 Portrayal Catalogue Builder

S-100 UML Models

S-100 GitHub Schemas

### Please send completed forms and supporting documentation to the secretary S-100WG.