

## OGC® DOCUMENT: 18-016R1

External identifier of this OGC® document: <http://www.opengis.net/doc/IS/CDB-notes/1.1>



# OGC CDB VERSION 1.1 RELEASE NOTES

---

## RELEASE NOTES

### PUBLISHED

**Version:** 1.1

**Submission Date:** 2018-08-02

**Approval Date:** 2018-08-27

**Publication Date:** 2018-12-19

**Editor:** Carl Reed, PhD

**Notice:** This document is not an OGC standard. This document provides release notes for an OGC standard. This document is subject to change without notice and may not be referred to as an OGC Standard. Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

### **License Agreement**

Use of this document is subject to the license agreement at <https://www.ogc.org/license>

### **Copyright notice**

Copyright © 2018 Open Geospatial Consortium

To obtain additional rights of use, visit <https://www.ogc.org/legal>

### **Note**

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. The Open Geospatial Consortium shall not be held responsible for identifying any or all such patent rights.

Recipients of this document are requested to submit, with their comments, notification of any relevant patent claims or other intellectual property rights of which they may be aware that might be infringed by any implementation of the standard set forth in this document, and to provide supporting documentation.

# CONTENTS

I. ABSTRACT .....	v
II. KEYWORDS .....	v
III. SECURITY CONSIDERATIONS .....	vi
IV. SUBMITTING ORGANIZATIONS .....	vii
V. SUBMITTERS .....	vii
1. REVISIONS TO VOLUME 1: CDB CORE MODEL AND PHYSICAL DATA STORE .....	9
1.1. Introductory Clause “Future Work” .....	9
1.2. 1.0.1 Corrigendum changes included .....	9
1.3. General Change: All file extensions in Requirements are now generic .....	9
1.4. Clause 1.4.3 CDB Metadata .....	10
1.5. Clause 1.4.4 CDB Directory File Naming and Structure .....	10
1.6. Clause 1.7.1.4 System Hardware Independence .....	10
1.7. Clause 3.1.1 Metadata Directory .....	10
1.8. Clause 3.1.1 Metadata Directory .....	11
1.9. Clause 3.4.2.4 Examples .....	11
1.10. Clause 3.4.4.3 Examples .....	11
1.11. Clause 3.4.4.4 Examples .....	11
1.12. Clause 3.4.5.2 Examples .....	11
1.13. Clause 5.1 enhanced to include discussion of Controlled Vocabularies .....	11
1.14. Clause 5.1.1 Global Metadata .....	12
1.15. Clause 5.1.2 Local Metadata .....	12
1.16. Clause 5.1.8 (Formerly Clause 5.1.6) Version Metadata .....	12
1.17. Clause 5.1.12 Geospatial Metadata Guidance .....	12
1.18. Clause 5.1.12.1 Suggested Global Geospatial Metadata Elements .....	12
1.19. Clause 5.1.12.2 Suggested Local Geospatial Metadata Elements .....	13
1.20. Clause 5.6 .....	13
1.21. Clause 5.6.2.3.2 VSTI Default Read Value (Change Request 490) .....	13
1.22. New Clause: 5.7.1.6.4 Network Vector Priority .....	13
1.23. New Clause: 5.7.1.9 Vector Significant Size and Spatial Significance Criteria .....	14
1.24. Annex A: Abstract Test Suite .....	14
1.25. Table 5-1 Component Selectors for CDB Controlled Vocabularies and Metadata .....	14
1.26. Table 5-9: Component Selectors for GTModel Datasets .....	14
1.27. Figure 5-25. Two instances of code 65 .....	14
1.28. Table 5-27 Use of “D” has two meanings. (Change Request 471) .....	15

1.29. Table 5-27 not entirely visible (Change Request 481) .....	15
1.30. CDB_Attributes.xml Schema error (Change Request 482) .....	15
<b>2. REVISIONS TO VOLUME 2: OGC CDB CORE: MODEL AND PHYSICAL STRUCTURE: INFORMATIVE ANNEXES .....</b>	<b>17</b>
2.1. Annex Q: Table of Dataset Codes .....	17
2.2. Annex R: Derived Datasets within the CDB .....	17
<b>3. REVISIONS TO VOLUME 3 TERMS AND DEFINITIONS .....</b>	<b>19</b>
<b>4. REVISIONS TO VOLUME 4: CDB USE OF SHAPEFILES FOR VECTOR DATA STORAGE .....</b>	<b>21</b>
4.1. General .....	21
4.2. Clause 1: Scope .....	21
4.3. Clause 3: References .....	21
4.4. Clause 4: Terms and Definitions .....	21
<b>5. REVISIONS TO VOLUME 5: RADAR CROSS-SECTIONS .....</b>	<b>23</b>
5.1. General .....	23
5.2. Clause 4 Terms and Definitions .....	23
<b>6. REVISIONS TO VOLUME 6 OGC CDB RULES FOR ENCODING DATA USING OPENFLIGHT BP .....</b>	<b>25</b>
6.1. General .....	25
6.2. Clause 5.1 Identifiers .....	25
6.3. Requirement Class Metadata .....	25
<b>7. REVISIONS TO VOLUME 7 OGC CDB DATA MODEL GUIDANCE .....</b>	<b>27</b>
7.1. 6.5.3 Access of a Model Interior .....	27
7.2. Section 6.13.1 Linear Feature Radar Simulation Example .....	27
7.3. New Section added: 6.14 Guideline: Vector Priority Tile-LOD Generation .....	27
<b>8. REVISIONS TO VOLUME 8: CDB SPATIAL AND COORDINATE REFERENCE SYSTEMS GUIDANCE .....</b>	<b>29</b>
8.1. Clause 4 Terms and Definitions .....	29
<b>9. REVISIONS TO VOLUME 10: CDB IMPLEMENTATION GUIDANCE .....</b>	<b>31</b>
9.1. General .....	31
9.2. Clause 4 Terms and Definitions .....	31
9.3. Clause 5: Platform Recommendations .....	31
<b>10. REVISIONS TO VOLUME 12: CDB NAVAIDS ATTRIBUTION AND NAVAIDS ATTRIBUTION ENUMERATION VALUES .....</b>	<b>33</b>
10.1. Abstract: .....	33



## ABSTRACT

---

This document provides release notes for version 1.1 of the CDB Standard and related Best Practices.



## KEYWORDS

---

The following are keywords to be used by search engines and document catalogues.

ogcdoc, OGC document, CDB, Common Data Base, simulation, synthetic environment, version 1.1



## SECURITY CONSIDERATIONS

---

No security considerations have been made for this document.

IV

# SUBMITTING ORGANIZATIONS

The following organizations submitted this Document to the Open Geospatial Consortium (OGC):

- OGC CDB Standards Working Group

V

# SUBMITTERS

NAME	AFFILIATION
Carl Reed	Carl Reed & Associates (Editor)
David Graham	CAE Inc. CDB Chair



1

# REVISIONS TO VOLUME 1: CDB CORE MODEL AND PHYSICAL DATA STORE

---



# REVISIONS TO VOLUME 1: CDB CORE MODEL AND PHYSICAL DATA STORE

---

## 1.1. Introductory Clause “Future Work”

---

Updated to reflect work done in CDB version 1.1 as well as new requirements identified in OGC Testbed 13.

## 1.2. 1.0.1 Corrigendum changes included

---

All CDB 1.0.1 Corrigendum changes incorporated. See OGC document 17-064 Summary of Corrigendum Changes for CDB Volume1: Core.

## 1.3. General Change: All file extensions in Requirements are now generic

---

All file specific extensions stated in requirements have been made generic. For example, CDB Volume 1 Requirement formerly stated:

The files from the GSModelGeometry and GSModelInteriorGeometry datasets SHALL have the following naming convention: LatLon\_Dnnn\_Snnn\_Tnnn\_LOD\_Un\_Rn\_FeatureCode\_FSC\_MODL.fl<sub>t</sub>.

This Requirement now reads:

The files from the GSModelGeometry and GSModelInteriorGeometry datasets SHALL have the following naming convention: LatLon\_Dnnn\_Snnn\_Tnnn\_LOD\_Un\_Rn\_FeatureCode\_FSC\_MODL.<ext>

Where <ext> is the correct file name extension for the data encoded in the file. There is also a footnote that specifies what the extension was in version 1.0 of the CDB standard.

## 1.4. Clause 1.4.3 CDB Metadata

---

This clause was updated to:

- Provide definitions for metadata, controlled vocabularies, and enumerations. These are in clauses 1.4.3.1, 1.4.3.2, and 1.4.3.3.
- Insert a table that provides more detailed information on each of the files included in the metadata folder.

## 1.5. Clause 1.4.4 CDB Directory File Naming and Structure

---

This clause is updated to:

- Reflect the use of generic file extensions in all Requirements and the Abstract Test Suite rather than specific file extensions.
- Reflect the addition of enumerations and controlled vocabularies as concepts in the standard.

## 1.6. Clause 1.7.1.4 System Hardware Independence

---

Slight re-wording to make the sentence grammatically correct.

## 1.7. Clause 3.1.1 Metadata Directory

---

Reformatted to be more easily read and understood.

## 1.8. Clause 3.1.1 Metadata Directory

---

A new metadata file description for global metadata – including geospatial metadata -applicable to an entire CDB data store was added. This new metadata file description needs to be read in concert with the changes in clauses 1.4.3, 5.1, and specifically 5.1.6.

## 1.9. Clause 3.4.2.4 Examples

---

An example of the file path for all associated metadata is included.

## 1.10. Clause 3.4.4.3 Examples

---

An example of the file path for all associated metadata is included.

## 1.11. Clause 3.4.4.4 Examples

---

An example of the file path for all associated metadata is included.

## 1.12. Clause 3.4.5.2 Examples

---

An example of the file path for associated metadata is included.

## 1.13. Clause 5.1 enhanced to include discussion of Controlled Vocabularies

---

Clause 5.1 has additional wording explaining CDB use of metadata, enumerations and controlled vocabularies. This change resulted from the work in CDB 1.1 for metadata. Many elements in CDB 1.0 that were referred to as metadata are actually enumerations and controlled vocabularies.

## 1.14. Clause 5.1.1 Global Metadata

---

A new clause added that defines what is meant by Global Metadata in general for a CDB data store.

## 1.15. Clause 5.1.2 Local Metadata

---

A new clause added that defines what is meant by Local Metadata for a CDB data store.

## 1.16. Clause 5.1.8 (Formerly Clause 5.1.6) Version Metadata

---

Specification version definition enhanced to include both OGC and community versions of the standard.

Addition of a mandatory `<Metadata standard="metadata-standard-name">` element that specifies the metadata standard used for a CDB data store. This includes a list of metadata standards commonly used in the geospatial and simulation industries. This enumeration is governed by and agreed to by the OGC CDB Standards Working Group. Other metadata standards or profiles of standards may be added upon request and with proper justification. For backwards compatibility, the `Metadata_standard` element can be set to "NoMetadata".

## 1.17. Clause 5.1.12 Geospatial Metadata Guidance

---

This is a new clause that provides general implementation guidance for encoding and storing metadata in a CDB data store.

## 1.18. Clause 5.1.12.1 Suggested Global Geospatial Metadata Elements

---

This is a new clause that provides guidance on which metadata elements should be included in the global metadata resource.

## 1.19. Clause 5.1.12.2 Suggested Local Geospatial Metadata Elements

---

This is a new clause that provides guidance on which metadata elements should be included in a local metadata resource.

## 1.20. Clause 5.6

---

Cross walked the CDB tiled grid concept with the OGC/ISO baseline, specifically the OGC Coverage Implementation Schema (CIS) September 2017.

## 1.21. Clause 5.6.2.3.2 VSTI Default Read Value (Change Request 490)

---

Requirement 102 is against CDB client-devices and not the CDB data store itself. This is an untestable requirement, and further, a client-device should be allowed to read and consume a CDB in any manne that it wishes. There might well be good reasons to not follow those rules in a client-device, so the spec should not impose this.

Therefore, this requirement was removed and replaced with informative guidance for client implementations. The related test 102 is removed from Annex A – Abstract Test Suite.

## 1.22. New Clause: 5.7.1.6.4 Network Vector Priority

---

After CDB was submitted to the OGC, the CDB user community added a new sub-clause to clarify rules for network vector priority. This CDB user community approved clause is now incorporated in Volume 1 of the OGC CDB standard, version 1.1.

## 1.23. New Clause: 5.7.1.9 Vector Significant Size and Spatial Significance Criteria

---

After CDB was submitted to the OGC, the CDB user community added a new sub-clause to clarify rules for vector significant size and spatial significance. This CDB user community approved clause is now incorporated in Volume 1 of the OGC CDB standard, version 1.1. Clause 5.7.1.9 includes two sub-clauses: 5.7.1.9.1 Vector Significant Size and 5.7.1.9.2 Levels of Detail and Spatial Significance Criteria.

## 1.24. Annex A: Abstract Test Suite

---

All tests that had specific file extensions, such as .shp or .flt, are now generic with a note as to what the extensions were in version of the CDB standard prior to version 1.1.

## 1.25. Table 5-1 Component Selectors for CDB Controlled Vocabularies and Metadata

---

A new selector value “12” for global metadata was added.

## 1.26. Table 5-9: Component Selectors for GTModel Datasets

---

Provide correct volume and section reference to GTModel descriptor definition. Please note, while this descriptor content is called metadata, this IS NOT the metadata as defined in Volume 1 clauses 5.1.1 and 5.1.2.

## 1.27. Figure 5-25. Two instances of code 65

---

After verification with the reference document, the correct lines are:

- 64: Gable with Monitor

- 65: Reserved

The reference document is Digest Part 4, ISO 15046-10 Profile, March 1999, Annex B, Attribute and Value Codes.

## 1.28. Table 5-27 Use of “D” has two meanings. (Change Request 471)

---

There was recommendation to remove the use of “D” indicating a “Deprecated Attribution Schema” and keep just one use of “D” for “Dependent on another attribute”. This recommendation was accepted and the change made to Table 5-27.

## 1.29. Table 5-27 not entirely visible (Change Request 481)

---

In version 1.0, Table 27 is not entirely visible (clipped at page edge). This comment was accepted and the change made to the table prior to insertion into Volume 1 Core.

## 1.30. CDB\_Attributes.xml Schema error (Change Request 482)

---

In: CDB\_Attributes.xml

No.:9

Attr short name:BOTY

Attr name: Boundary Type

Description: "...See table 5-29 for a list of accepted values..."

The table 5-29 was corrected to be 5-19.



2

# REVISIONS TO VOLUME 2: OGC CDB CORE: MODEL AND PHYSICAL STRUCTURE: INFORMATIVE ANNEXES

---



## REVISIONS TO VOLUME 2: OGC CDB CORE: MODEL AND PHYSICAL STRUCTURE: INFORMATIVE ANNEXES

---

### 2.1. Annex Q: Table of Dataset Codes

---

Updated to reflect the relationship between the community CDB 3.2 version and the OGC standard.

### 2.2. Annex R: Derived Datasets within the CDB

---

Some grammatical errors were corrected.



3

# REVISIONS TO VOLUME 3 TERMS AND DEFINITIONS

---

## REVISIONS TO VOLUME 3 TERMS AND DEFINITIONS

---

Definitions were added for: depth, elevation, grid, grid point, height, metadata elements, raster, regular grid, and vector data. The definitions for dataset and metadata were slightly revised

The background features a dark blue field with several thin, light yellow lines intersecting at various points. Three of these intersection points are marked with small yellow dots. A yellow circle containing the number '4' is positioned to the left of the main title.

4

# REVISIONS TO VOLUME 4: CDB USE OF SHAPEFILES FOR VECTOR DATA STORAGE

A short, horizontal yellow line is located below the title.

## REVISIONS TO VOLUME 4: CDB USE OF SHAPEFILES FOR VECTOR DATA STORAGE

---

### 4.1. General

---

All version 1.0 references as used in identifier URIs updated to 1.1. The version also has a few typos corrected.

### 4.2. Clause 1: Scope

---

The use of the word “standard” replaced with “Best Practice”.

### 4.3. Clause 3: References

---

Proper reference to the Esri ShapeFile technical document was added.

### 4.4. Clause 4: Terms and Definitions

---

This clause was reworded and URL to the CDB standard was added.



5

# REVISIONS TO VOLUME 5: RADAR CROSS-SECTIONS

---

## REVISIONS TO VOLUME 5: RADAR CROSS-SECTIONS

---

### 5.1. General

---

All version 1.0 references as used in identifier URIs updated to 1.1. The version also has a few typos corrected.

### 5.2. Clause 4 Terms and Definitions

---

The correct URL to the CDB standard was inserted.

The background is a solid dark blue. It features several thin, light yellow lines that intersect to form a network of triangles and polygons. At each of these intersection points, there is a small, solid yellow circle. One such circle is located to the left of the main title, containing the number '6'.

6

# REVISIONS TO VOLUME 6 OGC CDB RULES FOR ENCODING DATA USING OPENFLIGHT BP

A short, solid yellow horizontal line is positioned to the left of the main title, aligned with the middle of the text block.



# REVISIONS TO VOLUME 6 OGC CDB RULES FOR ENCODING DATA USING OPENFLIGHT BP

---

## 6.1. General

---

All version 1.0 references as used in identifier URIs updated to 1.1. The version also has a few typos corrected.

## 6.2. Clause 5.1 Identifiers

---

URI base updated to reflect version 1.1.

## 6.3. Requirement Class Metadata

---

This requirement class was updated to consistent with Requirement 1 (/req/core/openflight/headercrs).



7

# REVISIONS TO VOLUME 7 OGC CDB DATA MODEL GUIDANCE

---

# REVISIONS TO VOLUME 7 OGC CDB DATA MODEL GUIDANCE

---

Note: Volume 7 was Annex A in the original CDB Specification v 3.2 submission to the OGC.

Minor changes at various places to make sure the reader knows the difference between CDB 3.2 specification and OGC Version 1.1 standard.

## 7.1. 6.5.3 Access of a Model Interior

---

This section has minor changes to make wording on the use of OpenFlightgeneric and in line with the changes in CDB Volume 1.

## 7.2. Section 6.13.1 Linear Feature Radar Simulation Example

---

This section has minor changes to make wording on the use of ShapeFiles generic and consistent with the changes in CDB Volume 1.

## 7.3. New Section added: 6.14 Guideline: Vector Priority Tile-LOD Generation

---

After CDB was submitted to the OGC, the CDB user community added a new Annex A sub-clause to clarify rules for vector priority in the LoD/Tile structure. This CDB user community approved clause is now incorporated in Volume 7 of the OGC CDB standard, version 1.1.

The background features a dark blue field with several thin, light yellow lines intersecting at various points. Three of these intersection points are marked with small yellow dots. A yellow circle containing the number '8' is positioned to the left of the main title.

8

# REVISIONS TO VOLUME 8: CDB SPATIAL AND COORDINATE REFERENCE SYSTEMS GUIDANCE

A short, horizontal yellow line is located below the title.

## REVISIONS TO VOLUME 8: CDB SPATIAL AND COORDINATE REFERENCE SYSTEMS GUIDANCE

---

### 8.1. Clause 4 Terms and Definitions

---

The correct URL to the CDB standard was inserted.



9

# REVISIONS TO VOLUME 10: CDB IMPLEMENTATION GUIDANCE

---

## REVISIONS TO VOLUME 10: CDB IMPLEMENTATION GUIDANCE

---

### 9.1. General

---

Comments (artifacts) for version 1.0 were removed.

### 9.2. Clause 4 Terms and Definitions

---

The correct URL to the CDB standard was inserted. Additional abbreviations were added.

### 9.3. Clause 5: Platform Recommendations

---

Correct grammatical errors.



10

# REVISIONS TO VOLUME 12: CDB NAVAIDS ATTRIBUTION AND NAVAIDS ATTRIBUTION ENUMERATION VALUES

---



## REVISIONS TO VOLUME 12: CDB NAVAIDS ATTRIBUTION AND NAVAIDS ATTRIBUTION ENUMERATION VALUES

---

### 10.1. Abstract:

---

Slight re-wording of the abstract