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Open Geospatial Consortium

OGC API - DISCRETE GLOBAL GRID SYSTEMS - PART 1: CORE

STANDARD
Implementation

DRAFT

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I ABSTRACT

<Insert Abstract Text here>

II KEYWORDS

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

ogcdoc, OGC document, API, openapi, html, ogcapi

III PREFACE

NOTE: Insert Preface Text here. Give OGC specific commentary: describe the technical content, reason for document, history of the document and precursors, and plans for future work.

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IV SECURITY CONSIDERATIONS

No security considerations have been made for this document.

V SUBMITTING ORGANIZATIONS

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

- Pangaea Innovations Pty. Ltd.
- Organization Two
- Organization Three
- Organization Four

1

SCOPE

1 SCOPE

NOTE: Insert Scope text here. Give the subject of the document and the aspects of that scope covered by the document.

2

CONFORMANCE

2 CONFORMANCE

This standard defines XXXX.

Requirements for N standardization target types are considered:

- AAAA
- BBBB

Conformance with this standard shall be checked using all the relevant tests specified in Annex A (normative) of this document. The framework, concepts, and methodology for testing, and the criteria to be achieved to claim conformance are specified in the OGC Compliance Testing Policies and Procedures and the OGC Compliance Testing web site.

In order to conform to this OGC® interface standard, a software implementation shall choose to implement:

- Any one of the conformance levels specified in Annex A (normative).
- Any one of the Distributed Computing Platform profiles specified in Annexes TBD through TBD (normative).

All requirements-classes and conformance-classes described in this document are owned by the standard(s) identified.

3

NORMATIVE REFERENCES

3 NORMATIVE REFERENCES

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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4

TERMS AND DEFINITIONS

4 TERMS AND DEFINITIONS

This document uses the terms defined in OGC Policy Directive 49, which is based on the ISO/IEC Directives, Part 2, Rules for the structure and drafting of International Standards. In particular, the word “shall” (not “must”) is the verb form used to indicate a requirement to be strictly followed to conform to this document and OGC documents do not use the equivalent phrases in the ISO/IEC Directives, Part 2.

This document also uses terms defined in the OGC Standard for Modular specifications (OGC 08-131r3), also known as the ‘ModSpec’. The definitions of terms such as standard, specification, requirement, and conformance test are provided in the ModSpec.

For the purposes of this document, the following additional terms and definitions apply.

This document uses the terms defined in Sub-clause 5.3 of [OGC06-121r9], which is based on the ISO/IEC Directives, Part 2, Rules for the structure and drafting of International Standards. In particular, the word “shall” (not “must”) is the verb form used to indicate a requirement to be strictly followed to conform to this standard.

For the purposes of this document, the following additional terms and definitions apply.

4.1. **example term**

term used for exemplary purposes

Note 1 to entry: An example note.

Example Here’s an example of an example term.

[**SOURCE:** ISO 19101-1:2014]

5

CONVENTIONS

5 CONVENTIONS

This sections provides details and examples for any conventions used in the document. Examples of conventions are symbols, abbreviations, use of XML schema, or special notes regarding how to read the document.

5.1. Identifiers

The normative provisions in this standard are denoted by the URI

`http://www.opengis.net/spec/{standard}/{m.n}`

All requirements and conformance tests that appear in this document are denoted by partial URIs which are relative to this base.

6

DGGS – CORE CONFORMANCE CLASS

6 DGGS — CORE CONFORMANCE CLASS

Paragraph

6.1. Clauses not containing normative material sub-clause 1

Paragraph

6.2. Clauses not containing normative material sub-clause 2

7

DGGS – DATA RETRIEVAL CONFORMANCE CLASS

7 DGGS — DATA RETRIEVAL CONFORMANCE CLASS

7.1. Requirement Class DGGS — Data Retrieval

The Data Retrieval conformance class allows to retrieve data from a specific Discrete Global Grid System (DGGS) in a particular indexing scheme from either an individual zone, or a list of zones referenced by ID. It describes an HTTP GET operation, as well as its response. The selected DGGS is listed as available and described in the Core conformance class, and conforms to OGC Topic 21. The conformance makes use of URI templates for a variable representing the Zone ID. The data retrieved from a Web API using this conformance class can either be for a particular collection of geospatial data, for a dataset as a whole, or in connection with *OGC API — Processes — Part 3: Workflows & Chaining*, the output of a processing workflow.

REQUIREMENTS CLASS 1	
Target type	DGGS Data Retrieval
Dependency	http://www.opengis.net/spec/ogcapi-common-1/1.0/req/core
Label	http://www.opengis.net/spec/ogcapi-dggs/0.0/req/data-retrieval

7.1.1. Retrieve data from single zone

The following requirements describe how a client can retrieve data from a single DGGS zone at the resource path …/`dggs/{dggsId}/zones/{zoneId}/data`.

7.1.1.1. Operation

REQUIREMENT 1	
Label	/req/data-retrieval/single-zone-data-op
For retrieving data for a single DGGS zone:	
A	The Implementation SHALL support an HTTP GET operation at a resource path ending with …/`dggs/{dggsId}/zones/{zoneId}/data`.

REQUIREMENT 1	
B	The Implementation SHALL provide a templated link to this resource path using the link relation type http://www.opengis.net/def/rel/ogc/1.0/dggs-zone-data.

7.1.1.2. Response

REQUIREMENT 2	
Label	/req/data-retrieval/single-zone-data-response
For the response to a query retrieving data for a single DGGS zone:	
A	The response of the HTTP GET operation SHALL have a status code of 200.
B	The content of the response SHALL be a data packet corresponding precisely to the area covered by the DGGS zone, at the resolution / scale corresponding to that zone.
C	The selection of an encoding for the response SHALL be consistent with HTTP content negotiation.

7.1.2. Retrieve data from multiple zones

The following requirements describe how a client can retrieve data from a single DGGS zone at the resource path …`/dggs/{dggsId}/data?zones={zoneId},…`.

7.1.2.1. Operation

REQUIREMENT 3	
Label	/req/data-retrieval/multi-zone-data-op
For retrieving data for multiple DGGS zones:	
A	The Implementation SHALL support an HTTP GET operation at a resource path ending with …/`dggs/{dggsId}/zones/data`.
B	The Implementation SHALL support a `zones` query parameter, consisting of a list of zone IDs in a format consistent with the indexing scheme for the selected DGGS ID.
C	The Implementation SHALL provide a link to this resource path using the link relation type http://www.opengis.net/def/rel/ogc/1.0/dggs-zone-data and the variable `{zoneID}` in the template URL.

7.1.2.2. Response

REQUIREMENT 4	
Label	/req/data-retrieval/multi-zone-data-response
For the response to a query retrieving data for multiple DGGS zones:	
A	The response of the HTTP GET operation SHALL have a status code of 200.
B	The content of the response SHALL package data packets corresponding precisely to the area covered by each of the DGGS zones being requested, at the resolution / scale corresponding to these zones.
C	The selection of an encoding for the response SHALL be consistent with HTTP content negotiation.

8

DGGS – ZONE QUERY CONFORMANCE CLASS

8 DGGS — ZONE QUERY CONFORMANCE CLASS

Paragraph

8.1. Requirement Class A or Requirement A Example

Paragraph – intro text for the requirement class.

Use the following table for Requirements Classes.

REQUIREMENTS CLASS 2	
Target type	Implementation Specification
Dependency	http://www.example.org/req/blah
Dependency	/req/data-retrieval
Label	http://www.opengis.net/spec/ABCD/m.n/req/zone-query

8.1.1. Requirement 1

Paragraph — intro text for the requirement.

Use the following table for Requirements, number sequentially.

Unresolved directive in sections/clause_8_dggs_zone_query.adoc — include::../requirements/REQ_zone-query-req-name-1.adoc[]

Dictionary tables for requirements can be added as necessary. Modify the following example as needed.

Table 1

NAMES	DEFINITION	DATA TYPES AND VALUES	MULTIPLICITY AND USE
name 1	definition of name 1	float	One or more (mandatory)
name 2	definition of name 2	character string type, not empty	Zero or one (optional)

NAMES	DEFINITION	DATA TYPES AND VALUES	MULTIPLICITY AND USE
name 3	definition of name 3	GML:: Point PropertyType	One (mandatory)

9

MEDIA TYPES FOR ANY DATA ENCODING(S)

9 MEDIA TYPES FOR ANY DATA ENCODING(S)

A section describing the MIME-types to be used is mandatory for any standard involving data encodings. If no suitable MIME type exists in http://www.iana.org/assignments/media-types/index.html then this section may be used to define a new MIME type for registration with IANA.

A

ANNEX A (INFORMATIVE) CONFORMANCE CLASS ABSTRACT TEST SUITE (NORMATIVE)

A

ANNEX A (INFORMATIVE) CONFORMANCE CLASS ABSTRACT TEST SUITE (NORMATIVE)

NOTE: Ensure that there is a conformance class for each requirements class and a test for each requirement (identified by requirement name and number)

A.1. Conformance Class A

A.1.1. Requirement 1

REQUIREMENT A.1	
Test purpose	Verify that…
Test method	Inspect…

A.1.2. Requirement 2

B

ANNEX B (INFORMATIVE) TITLE

B ANNEX B (INFORMATIVE) TITLE

NOTE: Place other Annex material in sequential annexes beginning with “B” and leave final two annexes for the Revision History and Bibliography

C

ANNEX C (INFORMATIVE) REVISION HISTORY

ANNEX C (INFORMATIVE) REVISION HISTORY

Table C.1

DATE	RELEASE	EDITOR	PRIMARY CLAUSES MODIFIED	DESCRIPTION
2021-05-17	0.1	Matthew Purss	all	initial version

BIBLIOGRAPHY

BIBLIOGRAPHY

NOTE: The TC has approved Springer LNCS as the official document citation type.

Springer LNCS is widely used in technical and computer science journals and other publications

– Actual References:

[n] Journal: Author Surname, A.: Title. Publication Title. Volume number, Issue number, Pages Used (Year Published)

[n] Web: Author Surname, A.: Title, http://Website-Url

1. *OGC: OGC Testbed 12 Annex B: Architecture* (2015).