Proposal for FGDC endorsement of OGC® Filter Encoding 2.0

# Introduction

This proposal provides documentation needed to obtain FGDC recognition of OGC® Filter Encoding (FE) 2.0 Encoding Standard – With Corrigendum [09-026r2], <http://docs.opengeospatial.org/is/09-026r2/09-026r2.html>. The FGDC endorsed OpenGIS® Filter Encoding Implementation Specification, version 1.1 [04-095][[1]](#footnote-1), which OGC has since deprecated[[2]](#footnote-2). With endorsement of FE 2.0, FE 1.1 will be retired as an FGDC-endorsed standard.

The following information responds to the specific questions outlined per Section V.1 of the FGDC Policy on Recognition of Non-Federally Authored Geographic Information Standards and Specifications (November 2005)[[3]](#footnote-3).

# Documentation

1. **The category of the standard or specification (per Section III).**

Consortium developed specifications – specifications developed by consortia such as the Open Geospatial Consortium (OGC).

1. **The proposed level of FGDC recognition (per Section IV).**

Endorsement.

1. **A discussion of the applicability of the proposed standard or specification in Federal geospatial activities, including discussion of the conditions where it should be employed and anywhere it should not be, i.e., provide the scope of Federal geospatial applicability of the standard or specification.**

A filter expression constrains property values of an object type in order to identify a subset of object instances. FE 2.0 describes XML encoding of a system neutral syntax for a query expression. FE is used in the request messaging sent to Web Feature Services and the query sent to the OGC Catalogue Service CS-W.

XML can be easily validated, parsed and transformed into server-specific language required to retrieve or modify object instances stored in some persistent object store. Examples:

* An XML encoded filter can be transformed into a WHERE clause for a SQL SELECT statement to fetch data stored in a SQL-based relational database.
* An XML encoded filter expression can be transformed into an XPath or XPointer expression for fetching data from XML documents.

FE 2.0 defines XML encoding for the following predicates:

* Logical predicates: and, or and not.
* Comparison predicates: equal to, not equal to, less than, less than or equal to, greater than, greater than or equal to, like, is null and between.
* Spatial predicates: equal, disjoint, touches, within, overlaps, crosses, intersects, contains, within a specified distance, beyond a specified distance and BBOX.
* Temporal predicates: after, before, begins, begun by, contains, during, ends, equals, meets, met by, overlaps and overlapped by.
* Predicate to test whether the identifier of an object matches the specified value.

1. **The specific reason(s) that the standard or specification would be of value to the Federal government and, if applicable, to other members of the FGDC. These should include, but not be limited to, identification of the specific FGDC subcommittee(s) and/or working group(s) whose members support the submission of the standard or specification and how it benefits its/their responsibilities.**

FE 2.0 is applicable to development of systems that use interfaces specified by the OGC Web Feature Service Implementation Specification or require an ability to select objects from a net accessible data base.

1. **Any restrictions, limitations, or other constraints that may affect promulgation and/or adoption and/or implementation of the standard or specification, e.g., copyright, license fees, restriction of applicability to a specific technology, and the like. The FGDC staff will negotiate with standards organizations to make an attempt to acquire free standards documents for FGDC members.**

OGC are copyrighted. See Copyright Notice and Disclaimers | OGC[[4]](#footnote-4). There is no charge in acquiring OGC Standards.

1. **The name and business addresses of a point-of-contact (POC) in the proposing or sponsoring FGDC member agency and, if applicable, the name and business addresses of a POC in the proposing non-Federal body.**

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1. **Identification and/or explanation of the process by which the proposed standard or specification was developed and reviewed. This information will support FGDC determination as to whether the process meets the criteria for a voluntary consensus standards process as defined in OMB Circular A-119. When accredited standards development bodies such as ISO, ANSI/INCITS, and NIST are the authors only their identity need be supplied. Otherwise, a description of the development and review process and a list of participants must be included.**

OGC. See Section 9, Policies and Procedures for Adoption and/or Revisions of Standards, Technical Committee Policies and Procedures[[5]](#footnote-5)

1. See <https://www.fgdc.gov/standards/list>, accessed September 5, 2017 [↑](#footnote-ref-1)
2. <http://www.opengeospatial.org/standards/filter>, accessed September 5, 2017 [↑](#footnote-ref-2)
3. <https://www.fgdc.gov/standards/standards_publications/Non-FGDC_StandardsSpecs_Policy.pdf>, accessed June 23, 2017 [↑](#footnote-ref-3)
4. [www.opengeospatial.org/ogc/legal](http://www.opengeospatial.org/ogc/legal), accessed September 1, 2017 [↑](#footnote-ref-4)
5. <http://docs.opengeospatial.org/pol/05-020r25/05-020r25.html#93>, accessed August 30, 2017 [↑](#footnote-ref-5)