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Geographic information — Web Feature Service

Information géographique — Service d'accès aux entités géographiques par le web

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Contents

Page

Foreword xi

Introduction xii

1 Scope 1

2 Conformance 2

3 Normative references 3

4 Terms and definitions 4

5 Conventions 8
5.1 Abbreviated terms 8
5.2 Use of examples 9
5.3 XML schemas 9
5.4 UML Notation 9
5.4.1 Class diagrams 9
5.4.2 State machine notation 10

6 Basic service elements 11
6.1 Introduction 11
6.2 Version numbering and negotiation 11
6.2.1 Version number form and value 11
6.2.2 Appearance in service metadata and in requests 11
6.2.3 Version number negotiation 11
6.2.4 Request encoding 11
6.2.5 KVP parameter encoding rules 12
6.3 Namespaces 13
6.4 Service bindings 13

7 Common elements 13
7.1 Encoding of features 13
7.2 Resource identifiers 13
7.2.1 Assigning resource identifiers 13
7.2.2 Encoding resource identifiers 14
7.2.3 Version identification 14
7.3 Property references 14
7.3.1 XPath subset 14
7.3.2 Accessor function 14
7.4 Predicate expression encoding 15
7.5 Exception reporting 15
7.6 Common request parameters 17
7.6.1 Introduction 17
7.6.2 Base request type 17
7.6.3 Standard presentation parameters 19
7.6.4 Standard resolve parameters 22
7.6.5 Standard input parameters 25
7.6.6 Additional common keywords for KVP-encoded requests 26
7.7 Standard response parameters 27
7.7.1 Parameter semantics 27
7.7.2 XML encoding 27
7.7.3 KVP encoding 27
7.7.4 Parameter discussion 27
7.8 Use of the schemaLocation attribute 30
7.9 Query expressions 30

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7.9.1 Introduction 30
7.9.2 Ad hoc query expression 30
7.9.3 Stored query expression 40

8 GetCapabilities operation 42
8.1 Introduction 42
8.2 Request 43
8.2.1 Request semantics 43
8.2.2 XML encoding 43
8.2.3 KVP encoding 43
8.3 Response 43
8.3.1 Response semantics 43
8.3.2 XML encoding 44
8.3.3 Capabilities document 45
8.3.4 FeatureTypeList section 45
8.3.5 Parameters domains and constraints 48
8.4 Extension points 52
8.5 Exceptions 54

9 DescribeFeatureType operation 54
9.1 Introduction 54
9.2 Request 54
9.2.1 Request semantics 54
9.2.2 XML Encoding 54
9.2.3 KVP Encoding 55
9.2.4 Parameter discussion 55
9.3 Response 56
9.3.1 Introduction 56
9.3.2 Supporting multiple namespaces 56
9.4 Exceptions 57

10 GetPropertyValue operation 57
10.1 Introduction 57
10.2 Request 57
10.2.1 Request semantics 57
10.2.2 XML Encoding 58
10.2.3 KVP Encoding 58
10.2.4 Parameter discussion 58
10.3 Response 60
10.3.1 Response semantics 60
10.3.2 XML encoding 60
10.3.3 State parameter 61
10.3.4 Standard response parameters 61
10.4 Exceptions 61

11 GetFeature operation 62
11.1 Introduction 62
11.2 Request 62
11.2.1 Request semantics 62
11.2.2 XML encoding 63
11.2.3 KVP encoding 63
11.2.4 Parameter discussions 64
11.3 Response 64
11.3.1 Response semantics 64
11.3.2 XML encoding 65
11.3.3 Parameter discussions 66
11.3.4 Additional objects 69
11.3.5 GetFeatureById response 69
11.4 Exceptions 70

12 LockFeature operation 70
12.1 Introduction 70

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12.2 Request 70
12.2.1 Request semantics 70
12.2.2 XML encoding 71
12.2.3 KVP encoding 71
12.2.4 Parameter discussions 72
12.2.5 State machine for WFS locking 73
12.3 Response 74
12.3.1 Response semantics 74
12.3.2 XML encoding 74
12.4 Exceptions 75

13 GetFeatureWithLock operation 75
13.1 Introduction 75
13.2 Request 75
13.2.1 Request semantics 75
13.2.2 XML encoding 75
13.2.3 KVP encoding 76
13.2.4 Parameter discussion 76
13.3 Response 77
13.3.1 Introduction 77
13.3.2 lockId parameter 77
13.4 Exceptions 77

14 Stored query management 77
14.1 Introduction 77
14.2 Defining stored queries 78
14.2.1 XML encoding 78
14.2.2 Parameter discussion 78
14.3 ListStoredQueries operation 81
14.3.1 Request semantics 81
14.3.2 XML encoding 82
14.3.3 KVP encoding 82
14.3.4 Response 82
14.3.5 Exceptions 83
14.4 DescribeStoredQueries operations 83
14.4.1 Request semantics 83
14.4.2 XML encoding 83
14.4.3 KVP encoding 84
14.4.4 Response 84
14.5 CreateStoredQuery operation 85
14.5.1 Request semantics 85
14.5.2 XML encoding 85
14.5.3 KVP encoding 85
14.5.4 Parameter discussions 85
14.5.5 Response 86
14.6 DropStoredQuery operations 86
14.6.1 Request semantics 86
14.6.2 XML encoding 87
14.6.3 KVP encoding 87
14.6.4 Response 87
14.7 Exceptions 87

15 Transaction operation 88
15.1 Introduction 88
15.2 Request 88
15.2.1 Request semantics 88
15.2.2 XML encoding 89
15.2.3 Parameter discussions 90
15.2.4 Insert action 91
15.2.5 Update action 92
15.2.6 Replace action 94

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15.2.7 Delete action 94
15.2.8 Native action 95
15.3 Response 96
15.3.1 Response semantics 96
15.3.2 TransactionResponse element 96
15.3.3 TransactionSummary element 97
15.3.4 InsertResults element 97
15.3.5 UpdateResults element 98
15.3.6 ReplaceResults element 98
15.4 Exceptions 98

Annex A (normative) **Conformance testing** 99

A.1 Conformance classes 99
A.1.1 Simple WFS 99
A.1.2 Basic WFS 99
A.1.3 Transactional WFS 99
A.1.4 Locking WFS 100
A.1.5 HTTP GET 100
A.1.6 HTTP POST 100
A.1.7 SOAP 100
A.1.8 Inheritance 101
A.1.9 Remote resolve 101
A.1.10 Response paging 101
A.1.11 Standard joins 101
A.1.12 Spatial joins 101
A.1.13 Temporal joins 102
A.1.14 Feature versions 102
A.1.15 Manage stored queries 102

A.2 Basic tests 102
A.2.1 Version negotiation 102
A.2.2 Lists version number 2.0.0 as a supported request version number 103
A.2.3 Invalid version number 103
A.2.4 Version negotiation for the GetCapabilities request 103
A.2.5 Response to XML- and KVP-encoded. requests 103
A.2.6 Parameter ordering and case 104
A.2.7 Unrecognized parameters 104
A.2.8 Server operates on GML features 104
A.2.9 Feature identifiers 105
A.2.10 Invariant identifier 105
A.2.11 Versioning 105
A.2.12 XPath subset 106
A.2.13 Predicate encoding 106
A.2.14 Exception reporting 106
A.2.15 Common request parameters 107
A.2.16 Standard presentation parameters 108
A.2.17 Standard resolve parameters 109
A.2.18 Standard input parameters 112
A.2.19 Standard response parameters 113
A.2.20 Response paging 114
A.2.21 schemaLocation parameter 115
A.2.22 Query expressions 115
A.2.23 Declaring conformance 120

Annex B (informative) **Examples** 121

B.1 Exception report example 121

B.2 DescribeFeatureType examples 121
B.2.1 Example 1 121
B.2.2 Example 2 124

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B.3 GetFeature examples 128
B.3.1 Introduction 128
B.3.2 Example 1 128
B.3.3 Example 2 128
B.3.4 Example 3 129
B.3.5 Example 4 129
B.3.6 Example 5 131
B.3.7 Example 6 131
B.3.8 Example 7 131
B.3.9 Example 8 132
B.3.10 Example 9 134
B.3.11 Example 10 136
B.3.12 Example 11 137
B.3.13 Example 12 138
B.3.14 Example 13 139
B.3.15 Example 14 142
B.3.16 Example 15 143
B.3.17 Example 16 143
B.3.18 Example 17 144
B.3.19 Example 18 145
B.3.20 Example 19 145

B.4 GetPropertyValue examples 146
B.4.1 Introduction 146
B.4.2 Example 1 147
B.4.3 Example 2 149
B.4.4 Example 3 149
B.4.5 Example 4 151
B.4.6 Example 5 152
B.4.7 Example 6 153
B.4.8 Example 7 154
B.4.9 Example 8 154
B.4.10 Example 9 155

B.5 LockFeature examples 156
B.5.1 Example 1 156
B.5.2 Example 2 157
B.5.3 Example 3 157
B.5.4 Example 4 158

B.6 Transaction examples 159
B.6.1 Insert example 159
B.6.2 Update examples 160
B.6.3 Delete examples 162
B.6.4 Mixed transaction example 163
B.6.5 Transaction response example 166

B.7 GetCapabilities example 167

B.8 KVP examples 182
B.8.1 Conventions 182
B.8.2 DescribeFeatureType examples 182
B.8.3 GetPropertyValue examples 183
B.8.4 GetFeature examples 185
B.8.5 LockFeature examples 190

Annex C (informative) **Consolidated XML schema** 192

C.1 Introduction 192

C.2 wfs.xsd 192

Annex D (normative) **Service bindings** 203

D.1 Introduction 203

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D.2 HTTP GET and POST binding ... 203
D.3 HTTP status codes ... 203
D.4 SOAP binding ... 204
D.4.1 Introduction ... 204
D.4.2 SOAP Envelope ... 205
D.4.3 SOAP Header ... 205
D.4.4 SOAP Body ... 205
D.4.5 Encoding XML Schema in a SOAP Body ... 206
D.4.6 SOAP Fault ... 207
D.4.7 SOAP HTTP Binding ... 208
Annex E (normative) Web Service Description Language (WSDL) ... 209
E.1 Introduction ... 209
E.2 WFS Operations in WSDL ... 209
E.3 SOAP Binding ... 209
E.4 Binding style ... 210
E.5 Service ... 211
E.6 Service description using WSDL ... 211
E.6.1 Introduction ... 211
E.6.2 wfs-xml-interfaces.wsdl ... 211
E.6.3 wfs-kvp-interfaces.wsdl ... 213
E.6.4 wfs-responses.wsdl ... 215
E.6.5 wfs-http-bindings.wsdl ... 215
E.6.6 wfs-kvp-bindings.wsdl ... 218
E.6.7 wfs-soap-bindings.wsdl ... 219
E.6.8 Ancillary files ... 221
E.6.9 Examples (informative) ... 226
Annex F (informative) Abstract model ... 229
F.1 Overview ... 229
F.2 Abstract Resource Model ... 229
F.2.1 Introduction ... 229
F.2.2 Basic Accessor Functions ... 229
F.3 Mapping of the General Feature Model (GFM) to the WFS Abstract Model ... 231
F.4 Identifiers ... 231
F.5 valueOf() function ... 231
F.6 WFS Operations ... 231
F.6.1 Introduction ... 231
F.6.2 featureTypeNameList() function ... 232
F.6.3 featureType() function ... 232
F.6.4 Query function ... 232
F.6.5 propertyValue() function ... 233
F.6.6 lock() function ... 234
F.6.7 transaction() function ... 234
F.6.8 Stored query operations ... 235
F.7 WFS Operations ... 236
F.8 Conceptual schema ... 236
Bibliography ... 238

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Figures

Figure 1 — UML notation in class diagrams 9
Figure 2 — Summary of UML state diagram notations 10
Figure 3 — BaseRequest 17
Figure 4 — StandardPresentationParameters 19
Figure 5 — StandardResolveParameters 22
Figure 6 — StandardInputParameters 25
Figure 7 — StandardResponseParameters 27
Figure 8 — Ad hoc query expression 31
Figure 9 — Query projection clause 35
Figure 10 — Query sorting clause 39
Figure 11 — StoredQuery 41
Figure 12 — GetCapabilities request 43
Figure 13 — GetCapabilities response 44
Figure 14 — DescribeFeatureType request 54
Figure 15 — GetPropertyValue request 57
Figure 16 — GetPropertyValue response 60
Figure 17 — GetFeature request 63
Figure 18 — GetFeature response 65
Figure 19 — LockFeature request 70
Figure 20 — State diagram for a WFS lock 73
Figure 21 — LockFeature response 74
Figure 22 — GetFeatureWithLock request 75
Figure 23 — ListStoredQueries request 81
Figure 24 — ListStoredQueriesResponse 82
Figure 25 — DescribeStoredQueries request 83
Figure 26 — DescribeStoredQueriesResponse 84
Figure 27 — CreateStoredQuery request 85
Figure 28 — CreateStoredQuery response 86
Figure 29 — DropStoredQuery request 86

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Figure 30 — Transaction request 89

Figure 31 — Transaction response 96

Figure F.1 — Web Feature Service interfaces overview 237

Tables

Table 1 — Conformance Classes 2

Table 2 — Operation request encoding 12

Table 3 — WFS exception codes 16

Table 4 — KVP encoding of the base request type 18

Table 5 — KVP encoding of standard presentation parameters 19

Table 6 — KVP encoding of standard resolve parameters 23

Table 7 — Additional common keywords for KVP-encoded. WFS requests 26

Table 8 — Keywords for Ad hoc query KVP encoding 32

Table 9 — KVP encoding of projection clause 35

Table 10 — Keywords for Stored query KVP encoding 41

Table 11 — Elements to describe feature types 47

Table 12 — Parameter domains for WFS operations 48

Table 13 — Service constraints 50

Table 14 — Operation Constraints 51

Table 15 — DescribeFeatureType KVP encoding 55

Table 16 — Keywords for GetPropertyValue KVP encoding 58

Table 17 — Keywords for GetFeature KVP encoding 64

Table 18 — Keywords for LockFeature KVP encoding 71

Table 19 — Additional keywords for GetFeatureWithLock KVP encoding 76

Table 20 — Keywords for ListStoredQueries KVP encoding 82

Table 21 — Keywords for DescribeStoredQueries KVP encoding 84

Table 22 — Keywords for DropStoredQuery KVP encoding 87

Table D.1 — Request encoding and transport methods 203

Table D.2 — Correlate OWS and WFS exception codes to HTTP status codes 204

Table F.1 — Mapping the WFS Abstract Model operations to WFS operations 236

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 19142 was prepared by Technical Committee ISO/TC 211, *Geographic Information/Geomatics*, in collaboration with the Open Geospatial Consortium, Invc. (OGC). The Web Feature Service (WFS) was originated within OGC.

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Introduction

The Web Feature Service (WFS) represents a change in the way geographic information is created, modified and exchanged on the Internet. Rather than sharing geographic information at the file level using File Transfer Protocol (FTP), for example, the WFS offers direct fine-grained access to geographic information at the feature and feature property level. Web feature services allow clients to only retrieve or modify the data they are seeking, rather than retrieving a file that contains the data they are seeking and possibly much more. That data can then be used for a wide variety of purposes, including purposes other than their producers' intended ones.

In the taxonomy of services defined in ISO 19119, the WFS is primarily a feature access service but also includes elements of a feature type service, a coordinate conversion/transformation service and a geographic format conversion service.

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Geographic information — Web Feature Service

1 Scope

This International Standard specifies the behaviour of a web feature service that provides transactions on and access to geographic features in a manner independent of the underlying data store. It specifies discovery operations, query operations, locking operations, transaction operations and operations to manage stored parameterized query expressions.

Discovery operations allow the service to be interrogated to determine its capabilities and to retrieve the application schema that defines the feature types that the service offers.

Query operations allow features or values of feature properties to be retrieved from the underlying data store based upon constraints, defined by the client, on feature properties.

Locking operations allow exclusive access to features for the purpose of modifying or deleting features.

Transaction operations allow features to be created, changed, replaced and deleted from the underlying data store.

Stored query operations allow clients to create, drop, list and describe parameterized query expressions that are stored by the server and can be repeatedly invoked using different parameter values.

NOTE This International Standard does not address the access control issues.

This International Standard defines 11 operations:

— GetCapabilities (discovery operation);

— DescribeFeatureType (discovery operation);

— GetPropertyValue (query operation);

— GetFeature (query operation);

— LockFeature (locking operation);

— GetFeatureWithLock (query and locking operation);

— Transaction (transaction operation);

— CreateStoredQuery (stored query operation);

— DropStoredQuery (stored query operation);

— ListStoredQueries (stored query operation);

— DescribeStoredQueries (stored query operation).

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