

# **Esri Supported Open Geospatial Consortium® and ISO/TC 211 Standards**



Esri, 380 New York St., Redlands, CA 92373-8100 USA  
TEL 909-793-2853 • FAX 909-793-5953 • E-MAIL [info@esri.com](mailto:info@esri.com) • WEB [esri.com](http://esri.com)

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# **Esri Supported Open Geospatial Consortium® and ISO/TC 211 Standards**

## **An Esri White Paper**

### **Contents:**

Interoperability Enablers

Role of Interoperability

Supported OGC Standards

Supported ISO/TC 211 Standards

Extensibility and Customization

Domain and National Standards

For More Information

OGC –Exhibit A Compliant Product Listing for Esri



# Esri Supported Open Geospatial Consortium® and ISO/TC 211 Standards

Esri's ArcGIS platform is interoperable with other Geographic Information Systems (GIS) and integrates seamlessly with non-geospatial IT solutions.

GIS interoperability is enabled by a number of factors including supporting openly developed and adopted IT and GIS standards. This paper focuses on Esri's support for geospatial standards from ISO Technical Committee 211 (ISO/TC211) and the Open Geospatial Consortium (OGC).

## *Interoperability Enablers.*

ArcGIS supports the following GIS interoperability enablers:

- openly published data formats and data models
- openly published APIs (application programming interfaces)
- direct read-write of a wide variety of data formats
- Extract, Transform, and Load (ETL) technology
- hardware platform choices
- database choices
- operating environment choices
- support for multiple coordinate, address, temporal reference systems
- support for thousands of datums and projections
- adoption and use of mainstream IT, web & cloud standards, patterns, and best practices.

## *Role of Interoperability*

The goal of GIS interoperability is to support users in finding, utilizing and deploying data from various GISs.

In addition to interoperability key success factors that enable GIS users to successfully work in heterogeneous environment include having a GIS infrastructure that is:

- secure

- reliable
- scalable
- extensible
- usable in mobile, desktop, server, cloud
- easy to use

In this paper we will focus only on one of these interoperability enablers – GIS Standards and the adoption by Esri of standards from ISO TC211 and OGC.

This document provides a list of all OGC specifications and ISO/TC 211 geographic information standards supported by Esri. This list is current as of the date of this document. For the latest information, visit [esri.com/standards](http://esri.com/standards).

## Supported OGC Specifications

### *OGC Interoperability*

Specification	Provider	Consumer
Web Map Service (WMS) 1.1.1	ArcIMS ArcGIS Server ArcGIS for Server	GIS Portal Toolkit Esri Geoportal Server ArcGIS Desktop ArcGIS for Desktop ArcGIS Explorer ArcGIS Online ArcGlobe ArcGIS .NET and Java™ ADF™ ArcGIS for INSPIRE
Web Map Service 1.3	ArcIMS ArcGIS Server ArcGIS for Server ArcGIS Online	GIS Portal Toolkit Esri Geoportal Server ArcGIS Desktop ArcGIS for Desktop ArcGIS Online ArcGIS .NET and Java ADF ArcGIS Data Interoperability ArcGIS for INSPIRE ArcGIS Online
Styled Layer Descriptor (SLD) 1.0	ArcIMS ArcGIS Server ArcGIS for Server	GIS Portal Toolkit Esri Geoportal Server ArcGIS Desktop ArcGIS for Desktop ArcGIS for INSPIRE

Specification	Provider	Consumer
Web Feature Service (WFS) 1.0	ArcIMS ArcGIS Server ArcGIS for Server	ArcGIS Desktop ArcGIS for Desktop ArcGIS Data Interoperability GIS Portal Toolkit Esri Geoportal Server ArcGIS for INSPIRE
Web Feature Service 1.1	ArcIMS ArcGIS Server ArcGIS for Server	ArcGIS Desktop ArcGIS for Desktop ArcGIS Data Interoperability GIS Portal Toolkit Esri Geoportal Server ArcGIS for INSPIRE
Web Feature Service 2.0	ArcGIS for INSPIRE	ArcGIS for INSPIRE
Web Feature Service 1.1 (Transactions)	ArcGIS Server ArcGIS for Server	Open Layers Based Client Tool



<b>Specification</b>	<b>Provider</b>	<b>Consumer</b>
Filter Encoding 1.0	ArcIMS	ArcGIS Desktop ArcGIS for Desktop ArcGIS Data Interoperability GIS Portal Toolkit Esri Geoportal Server ArcGIS for INSPIRE
Filter Encoding 1.1	ArcGIS Server, ArcGIS for Server	ArcGIS Desktop ArcGIS for Desktop ArcGIS Data Interoperability GIS Portal Toolkit Esri Geoportal Server,
Web Coverage Service (WCS) 1.0	ArcGIS Server WCS capability available with/without Image Server extension  ArcGIS for Server WCS capability available with/without Image Server extension	GIS Portal Toolkit Esri Geoportal Server ArcGIS Desktop ArcGIS for Desktop ArcGIS Data Interoperability Extension
Web Coverage Service 1.1	ArcGIS Server -WCS capability available with/without Image Server extension	GIS Portal Toolkit Esri Geoportal Server ArcGIS Desktop
Web Coverage Service 1.1.1	ArcGIS for Server ArcGIS for INSPIRE	ArcGIS for Desktop Esri Geoportal Server ArcGIS Data Interoperability ArcGIS for INSPIRE
Catalog Services 1.0—Z39.50	ArcIMS GIS Portal Toolkit Esri Geoportal Server	GIS Portal Toolkit Esri Geoportal Server

<b>Specification</b>	<b>Provider</b>	<b>Consumer</b>
Catalog Service for the Web (CSW) 2.0.1	ArcIMS GIS Portal Toolkit	GIS Portal Toolkit GIS Portal Toolbar for ArcGIS CSW Client for ArcGIS Esri Geoportal Server
CSW 2.0.2	ArcIMS GIS Portal Toolkit Esri Geoportal Server	GIS Portal Toolkit Esri Geoportal Server GIS Portal Toolbar for ArcGIS CSW Client for ArcGIS
Simple Features (SF) 1.1	ArcSDE® ArcGIS	ArcGIS
Geography Markup Language (GML) 2.x	ArcIMS WFS Connector	ArcGIS Data Interoperability
Geography Markup Language 3.1.x	ArcGIS Data Interoperability	ArcGIS Data Interoperability Esri Geoportal Server
Simple Features GML	ArcGIS Desktop ArcGIS for Desktop ArcGIS Data Interoperability ArcGIS Server ArcGIS for Server	ArcGIS Data Interoperability ArcGIS Desktop ArcGIS for Desktop Esri Geoportal Server ArcGIS for INSPIRE
KML Version 2.1	ArcGIS Server ArcGIS for Server ArcGIS Desktop ArcGIS for Desktop	ArcGIS Online ArcGIS Explorer ArcGlobe ArcGIS Data Interoperability ArcGIS Desktop ArcGIS for Desktop

Specification	Provider	Consumer
OGC KML Version 2.2	ArcGIS Server ArcGIS for Server ArcGIS Desktop ArcGIS for Desktop GIS Portal Toolkit 9.3 Esri Geoportal ArcGIS for INSPIRE ArcGIS Online	ArcGIS Explorer ArcGIS Online ArcGlobe ArcGIS Data Interoperability ArcGIS Desktop ArcGIS for Desktop ArcGIS for INSPIRE Esri Geoportal Server ArcGIS Online
Web Map Tile Service (WMTS) 1.0	ArcGIS for Server	ArcGIS Desktop ArcGIS Web Mapping APIs
Web Processing Service (WPS) 1.0	ArcGIS for Server	ArcGIS for Desktop
Sensor Observation Service (SOS) 2.0	SOS for ArcGIS Server	ArcGIS for Desktop SOS Extension
SensorML 2.0	SOS for ArcGIS Server	
Observations and Measurement (O&M) 2.0	SOS for ArcGIS Server	

All product versions mentioned in the table above refer to the most recent product versions where the standard/specification is supported. Earlier versions of the products have also supported many of these specifications.

For up-to-date information on OGC-compliant Esri products, visit the OGC website at <http://www.opengeospatial.org/resource/products/#ESRI>.

**Supported  
ISO/TC 211  
International  
Standards**

<b>ISO/TC 211 Geographic Information Standards</b>	<b>Esri's Implementation</b>
ISO 19106:2004—Profiles	Esri has used the concepts in this standard to produce user-community profiles of metadata and the Simple Features GML.
ISO 19107:2003—Spatial Schema	Esri has used the concepts in this standard in the development of ISO 19125 and ISO 19115; basic concepts defined in this standard are implemented in ArcGIS and in the design of geodatabases. This is the foundation for Simple Features GML.
ISO 19108:2003—Temporal Schema	Esri has implemented the concepts in this standard in metadata and handling time-aware data in ArcGIS.
ISO 19109:2005—Rules for Application Schema	Using the concepts described in this standard, Esri defines application schemas using a conceptual schema language (e.g., UML). The ArcGIS Data Interoperability extension applies the concepts of mapping from one application schema to another for data transfer as defined in the standard. Esri also uses the same concepts as the general feature model (GFM) as defined in the standard.
ISO 19110:2005—Methodology for Feature Cataloging	Esri participates in several standards organizations to develop an encoding for feature catalogs based on the concepts in this standard. Encoded catalogs can be used as additional metadata.
ISO 19111:2003—Spatial Referencing by Coordinates	Esri implements the basic concepts defined in this standard through GML and in coordinate reference system libraries in ArcGIS.
ISO 19112:2003—Spatial Referencing by Geographic Identifiers	Esri uses the concepts defined in this standard in the implementation of gazetteers as well as wherever spatial referencing by geographic identifiers are used.
ISO 19113:2002—Quality Principles; ISO 19114:2003—Quality Evaluation Procedures	Esri implements the concepts in these standards in its mapping and charting solution products and database production services.
ISO 19115:2003—Metadata	Esri implements this standard with Esri Geoportal Server and in ArcGIS for Desktop. Esri products implement several major profiles of this standard: North American Profile, Infrastructure for Spatial Information in Europe (INSPIRE), and the complete ISO 19115. Esri played a lead role in supporting the development of this standard and is leading the new revision project.
ISO 19118:2005—	Esri used the concepts defined in this standard while

<b>ISO/TC 211 Geographic Information Standards</b>	<b>Esri's Implementation</b>
Encoding	Esri leading the development of SF-GML and ISO 19139.
ISO 19119:2005—Services	Esri is using the concepts defined in this standard in its implementation of the OGC W*S specifications.
ISO 19123:2005—Schema for Coverage Geometry	Esri uses the concepts defined in this standard for exchanging and interfacing with several raster, matrix, and TIN structures.
ISO 19125:2004—Simple Feature Access—Parts 1–2	Esri implements this standard with ArcSDE technology and ArcGIS for Desktop. Esri played a lead role in supporting the development of this standard.
ISO 19128:2005—Web Map Server Interface	Esri supports this standard in both its server and client implementations. From an implementation perspective, this is equivalent to the OGC WMS 1.3 specification.
ISO 19136:2007—Geography Markup Language	Esri implements this standard in ArcGIS for INSPIR and the ArcGIS Data Interoperability extension. This is equivalent to OGC GML 3.2.1.
ISO 19139:2007—Metadata: XML Schema Implementation	Esri implements this standard with Esri Geoportal Server, and ArcGIS for Desktop supports the import, export, and validation of metadata according to this standard.

In addition, Esri is participating in the review, development, and/or test implementation of many of the Draft ISO Standards (DIS) and Final Draft ISO Standards (FDIS) being finalized in ISO/TC 211. These include

- ISO 19117 Revision—Portrayal
- ISO 19146—Cross-Domain Vocabularies
- ISO 19157—Data Quality
- ISO 19158 – Quality assurance of data supply
- ISO 19160 - Addressing

**Extensibility and Customization**

Many specifications and standards are written to provide support for a wide variety of domains and communities. Various interest groups therefore tend to use these specifications as overall guidance to define custom profiles and application schemas that are relevant to their domain.

Similarly, some specifications provide an underlying framework that is information model agnostic; the catalog specification (OGC CSW) can be implemented to support multiple information models—ISO, eBRIM, and so forth.

Esri's family of products not only supports many of these profiles, application schemas, and information models out of the box but also provides convenient tools for extending and customizing the existing functionality to accommodate and work with these newly emerging schemas and models.

For example:

- OGC Catalog Service for the Web (CSW) and Metadata
  - ArcGIS and Esri Geoportal Server CSW implementations support both the ISO TC211 and eBRIM information models.
  - The CSW provider (part of the metadata server) can be extended to support additional queryables, returnables, and profiles.
  - Esri's CSW client can be extended by users to support other CSW interfaces, as they become available.
  - ArcGIS metadata editors may be extended to support specific national or domain profiles (such as North American Profile, ANZLIC, etc).

**Domain and National Standards**

Many geospatial standards for specific communities and domains utilize OGC and ISO TC211 standards. This includes such standards oriented organizations such as the Federal Geographic Data Committee (FGDC), GeoINT Standards Working Group (GWG) and Defence Geographic Information Working Group (DGIWG). Additionally, many GIS national standards bodies such as the US International Committee for Information Technology Standards (INCITS), Standards Canada, Standards China, European Union's INSPIRE Directives, etc., include OGC and ISO TC211 standards in their lists of national geospatial standards.

By supporting OGC and ISO TC211 standards directly and by supporting customization tools for building domain or national profiles of these standards, Esri supports these Standard Development Organizations' (SDO's) standards as well.

**For More Information**

For the most up-to-date list of supported OGC and ISO TC211 standards by Esri, visit [esri.com/standards](http://esri.com/standards).

**OGC's Exhibit A**

Attached: Compliant Product Listing for Esri from OGC.

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**Exhibit A - Compliant Products Listing**

Item	Product	Specification	Certification Date (TSR Approved)
1.	Spatial Database Engine or ArcSDE 3.02 for DB2 Datajoiner	OpenGIS Simple Features Specification for SQL, Version 1.0, Types and Functions Alternative – SFS(TF) 1.1	23 Dec 1999
2.	Spatial Database Engine or ArcSDE 3.02 for Informix	OpenGIS Simple Features Specification for SQL, Version 1.1, Types and Functions Alternative – SFS(TF) 1.1	23 Dec 1999
3.	Spatial Database Engine for Oracle 3.02	OpenGIS Simple Features Specification for SQL, Version 1.1, Normalized Geometry Alternative – SFS(NG) 1.1	23 Dec 1999
4.	ArcGIS 8.1	OpenGIS Simple Features Specification for OLE/COM, Version 1.1, SFO 1.1 Alternative	21 Jun 2001
5.	ArcSDE for DB2 8.1	OpenGIS Simple Features Specification for SQL, Version 1.1, Types and Functions Alternative – SFS(TF) 1.1	21 Jun 2001
6.	ArcSDE for Informix 8.1	OpenGIS Simple Features Specification for SQL, Version 1.1, Types and Functions Alternative – SFS(TF) 1.1	21 Jun 2001
7.	ArcSDE for DB2, 9.0	OpenGIS Simple Features Specification for SQL, Version 1.1, Types and Functions Alternative – SFS(TF) 1.1	22 Aug 2005
8.	ArcSDE for Informix, 9.0	OpenGIS Simple Features Specification for SQL, Version 1.1, Types and Functions Alternative – SFS(TF) 1.1	22 Aug 2005
9.	ArcSDE for Oracle 9.0	OpenGIS Simple Features Specification for SQL, Version 1.1, Binary Geometry Alternative – SFS(BG) 1.1	22 Aug 2005
10.	ArcSDE for SQLServer 9.0	OpenGIS Simple Features Specification for SQL, Version 1.1, Binary Geometry Alternative – SFS(BG) 1.1	22 Aug 2005
11.	ArcIMS 9 WMS	OpenGIS Web Map Service Implementation Specification, Version 1.1.1 – WMS 1.1.1	25 Aug 2005

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12.	ArcSDE for DB2, 9.1	OpenGIS Simple Features Specification for SQL, Version 1.1, Types and Functions Alternative – SFS(TF) 1.1	22 Aug 2005
13.	ArcSDE for Informix, 9.1	OpenGIS Simple Features Specification for SQL, Version 1.1, Types and Functions Alternative – SFS(TF) 1.1	22 Aug 2005
14.	ArcSDE for Oracle 9.1	OpenGIS Simple Features Specification for SQL, Version 1.1, Binary Geometry Alternative – SFS(BG) 1.1	22 Aug 2005
15.	ArcSDE for SQLServer 9.1	OpenGIS Simple Features Specification for SQL, Version 1.1, Binary Geometry Alternative – SFS(BG) 1.1	22 Aug 2005
16.	ArcIMS 9.1 WMS	OpenGIS Web Map Service Implementation Specification, Version 1.1.1 – WMS 1.1.1	25 Aug 2005
17.	ArcIMS, Version 9.1 SP1	OpenGIS Web Feature Service Implementation Specification, Version 1.0 – WFS 1.0	01 Nov 2005
18.	ArcIMS, Version 9.2	OpenGIS Web Feature Service Implementation Specification, Version 1.0 – WFS 1.0	24 Oct 2006
19.	ArcIMS, Version 9.2	OpenGIS Web Map Service Implementation Specification, Version 1.1.1 – WMS 1.1.1	24 Oct 2006
20.	ArcGIS Server 9.2 Enterprise: DB2 – Spatial Types and Functions	OpenGIS Simple Features Specification for SQL, Version 1.1, Types and Functions Alternative – SFS(TF) 1.1	24 Oct 2006
21.	ArcGIS Server 9.2 Enterprise: Informix – Spatial Types and Functions	OpenGIS Simple Features Specification for SQL, Version 1.1, Types and Functions Alternative – SFS(TF) 1.1	24 Oct 2006
22.	ArcGIS Server 9.2 Enterprise: Oracle – Binary Schema	OpenGIS Simple Features Specification for SQL, Version 1.1, Binary Geometry Alternative – SFS(BG) 1.1	24 Oct 2006



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23.	ArcGIS Server 9.2 Enterprise: Oracle – Spatial Types and Functions	OpenGIS Simple Features Specification for SQL, Version 1.1, Types and Functions Alternative – SFS(TF) 1.1	24 Oct 2006
24.	ArcGIS Server 9.2 Enterprise: SQL – Binary Schema	OpenGIS Simple Features Specification for SQL, Version 1.1, Binary Geometry Alternative – SFS(BG) 1.1	24 Oct 2006
25.	ArcGIS Server 9.2 Workgroup: SQL Server Express – Binary Schema	OpenGIS Simple Features Specification for SQL, Version 1.1, Binary Geometry Alternative – SFS(BG) 1.1	24 Oct 2006
26.	ArcGIS Server, Version 9.2	OpenGIS Web Map Service Implementation Specification, Version 1.1.1 – WMS 1.1.1	24 Oct 2006
27.	ArcIMS, Version 9.3	OpenGIS Web Map Service Implementation Specification, Version 1.1.1 – WMS 1.1.1	09 Oct 2008
28.	ArcIMS, Version 9.3	OpenGIS Web Map Service Implementation Specification, Version 1.3 – WMS 1.3	09 Oct 2008
29.	ArcIMS, Version 9.3	OpenGIS Web Feature Service Implementation Specification, Version 1.0 – WFS 1.0	09 Oct 2008
30.	ArcGIS Server for DB2, Version 9.3	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	09 Oct 2008
31.	ArcSDE for SQL Server, Version 9.3	OpenGIS Simple Features Specification for SQL, Revision 1.1, Binary Geometry Alternative – SFS(BG) 1.1	09 Oct 2008
32.	ArcSDE for Postgres, Version 9.3	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	09 Oct 2008
33.	ArcSDE for Oracle, Version 9.3	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	09 Oct 2008

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34.	ArcSDE for Oracle, Version 9.3	OpenGIS Simple Features Specification for SQL, Revision 1.1, Binary Geometry Alternative – SFS(BG) 1.1	09 Oct 2008
35.	ArcSDE for Informix, Version 9.3	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	09 Oct 2008
36.	ArcGIS Server, Version 9.3	OpenGIS Web Map Service Interface Standard, Version 1.1.1 – WMS 1.1.1	09 Oct 2008
37.	ArcGIS Server, Version 9.3	OpenGIS Web Catalog Service Interface Standard, Version 1.0 – WCS 1.0	09 Oct 2008
38.	ArcGIS Server, Version 9.3	OpenGIS Web Map Service Interface Standard, Version 1.3.0 – WMS 1.3.0	09 Oct 2008
39.	ArcGIS Server, Version 9.3 SP1	OpenGIS Web Feature Service Interface Standard, Version 1.0 – WFS 1.0	22 Jun 2009
40.	ArcGIS Server, Version 9.3.1	OpenGIS Web Feature Service Interface Standard, Version 1.0 – WFS 1.0	01 Jul 2009
41.	ArcGIS Server Geoportal extension, Version 9.3.1	OpenGIS Catalog Service – Web, Version 2.0.2 – CS-W 2.0.2	01 Jul 2009
42.	ArcGIS Server, Version 9.3.1	OpenGIS Web Map Service Interface Standard, Version 1.3 – WMS 1.3	01 Jul 2009
43.	ArcGIS Server Enterprise (ArcSDE) for SQL Server, Version 9.3.1	OpenGIS Simple Features Specification for SQL, Revision 1.1, Binary Geometry Alternative – SFS(BG) 1.1	06 Jul 2009
44.	ArcGIS Server Enterprise (ArcSDE) for Informix, Version 9.3.1	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	06 Jul 2009
45.	ArcGIS Server Enterprise (ArcSDE) for Oracle, Version 9.3.1	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	06 Jul 2009

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46.	ArcGIS Server Enterprise (ArcSDE) for Oracle, Version 9.3.1	OpenGIS Simple Features Specification for SQL, Revision 1.1, Binary Geometry Alternative – SFS(BG) 1.1	06 Jul 2009
47.	ArcSDE for PostgreSQL, Version 9.3.1	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	06 Jul 2009
48.	ArcGIS Server Enterprise (ArcSDE) for DB2, Version 9.3.1 – Spatial Types & Functions	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	06 Jul 2009
49.	ArcGIS Server Enterprise (ArcSDE) for DB2, Version 10.0	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	01 Jun 2010
50.	ArcGIS Server Enterprise (ArcSDE) for Informix, Version 10.0	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	01 Jun 2010
51.	ArcGIS Server Enterprise (ArcSDE) for Oracle, Version 10.0	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	01 Jun 2010
52.	ArcGIS Server Enterprise (ArcSDE) for Oracle, Version 10.0	OpenGIS Simple Features Specification for SQL, Revision 1.1, Binary Geometry Alternative – SFS(BG) 1.1	01 Jun 2010
53.	ArcGIS Server Enterprise (ArcSDE) for PostgreSQL, Version 10.0	OpenGIS Simple Features Specification for SQL, Revision 1.1, Types & Functions Alternative – SFS(TF) 1.1	01 Jun 2010
54.	ArcGIS Server Enterprise (ArcSDE) for SQL Server, Version 10.0	OpenGIS Simple Features Specification for SQL, Revision 1.1, Binary Geometry Alternative – SFS(BG) 1.1	01 Jun 2010
55.	ArcGIS Server, Version 10.0	OpenGIS Web Map Service Interface Standard, Version 1.1.1 – WMS 1.1.1	01 Jun 2010
56.	ArcGIS Server, Version 10.0	OpenGIS Web Map Service Interface Standard, Version 1.3.0 – WMS 1.3.0	01 Jun 2010

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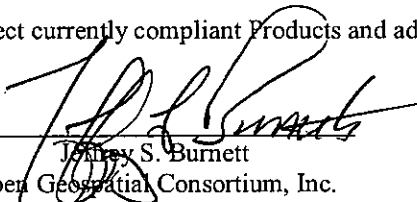
Item	Product	Specification	Certification Date (TSR Approved)
57.	ArcGIS Server, Version 10.0	OpenGIS Web Feature Service Interface Standard, Version 1.0.0 – WFS 1.0.0	01 Jun 2010
58.	ArcGIS Server, Version 10.0	OpenGIS Web Coverage Service Interface Standard, Version 1.0.0 – WCS 1.0.0	01 Jun 2010
59.	ArcGIS Server Geoportal extension, Version 10.0	OpenGIS Catalog Service Implementation Standard, Version 2.0.2 – CAT 2.0.2	01 Jun 2010
60.	Esri Geoportal Server, Version 1.2.2	OpenGIS Catalog Service Implementation Standard, Version 2.0.2 – CAT 2.0.2	26 Jun 2012
61.	ArcGIS for Server, Version 10.1	OpenGIS Web Map Service Implementation Standard, Version 1.1.1 – WMS 1.1.1	26 Jun 2012
62.	ArcGIS for Server, Version 10.1	OpenGIS Web Map Service Implementation Standard, Version 1.3.0 – WMS 1.3.0	26 Jun 2012
63.	ArcGIS for Server, Version 10.1	OpenGIS Web Coverage Service Implementation Standard, Version 1.0.0 – WCS 1.0.0	26 Jun 2012
64.	ArcGIS for Server, Version 10.1	OpenGIS Web Feature Service Implementation Standard, Version 1.0.0 – WFS 1.0.0	26 Jun 2012
65.	ArcGIS for Server Enterprise 10.1 for DB2	OpenGIS Simple Features for SQL Implementation Standard, Types & Functions Alternative, Version 1.1 – SFS(TF) 1.1	26 Jun 2012
66.	ArcGIS for Server Enterprise 10.1 for SQL Server	OpenGIS Simple Features for SQL Implementation Standard, Binary Geometry Alternative, Version 1.1 – SFS(BG) 1.1	26 Jun 2012
67.	ArcGIS for Server Enterprise 10.1 for PostgreSQL	OpenGIS Simple Features for SQL Implementation Standard, Types & Functions Alternative, Version 1.1 – SFS(TF) 1.1	26 Jun 2012
68.	ArcGIS for Server Enterprise 10.1 for Informix	OpenGIS Simple Features for SQL Implementation Standard, Types & Functions Alternative, Version 1.1 – SFS(TF) 1.1	26 Jun 2012

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69.	ArcGIS for Server Enterprise 10.1 for Oracle	OpenGIS Simple Features for SQL Implementation Standard, Binary Geometry Alternative, Version 1.1 – SFS(BG) 1.1	26 Jun 2012
70.	ArcGIS for Server Enterprise 10.1 for Oracle	OpenGIS Simple Features for SQL Implementation Standard, Types & Functions Alternative, Version 1.1 – SFS(TF) 1.1	26 Jun 2012

Updated 26 June 2012 to reflect currently compliant Products and add new Items 60-70:

  
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Jeffrey S. Burnett  
Open Geospatial Consortium, Inc.