Coming to Terms With **Interoperability and Standards**—A Brief Glossary

Connector—A software component that can be added to an existing software system, such as ArcIMS, to translate alternative communication protocols and/or service interfaces (e.g., HTTP GET, WMS) into existing ones (e.g., ArcIMS AppServer TCP Port, ArcXML).

eXtensible Markup Language (XML)—An industry standard for describing and structuring data in a platform-neutral and vendor-neutral way. It is free, extensible, and ubiquitous.

Geography Markup Language (GML)—An XML profile for the transport and storage of geographic information that includes both the spatial and nonspatial properties of geographic features.

.NET—Microsoft .NET software technologies enable high-level software integration. Broadly speaking, .NET includes XML Web services, smart client software and smart devices, servers, and developer tools. However, the term .NET most often refers to the Microsoft .NET Framework, which consists of the Common Language Runtime (CLR) and the .NET Framework Class libraries. .NET simplifies the implementation of ArcWeb Services by handling the communication protocol automatically.

OGC OpenLS Initiative (OpenLS)—This initiative is devoted to the development of interface specifications that facilitate the use of location and other forms of spatial information in the wireless Internet environment.

OGC Web Feature Server (OGC WFS)—A server that responds to OGC Web Feature Service requests to retrieve geospatial data encoded in GML. The OGC WFS implements the read-only operations GetCapabilities, DescribeFeatureType, and GetFeature.

OGC Web Feature Server with Transactional (OGC WFS-T) extension—A transactional Web feature service that supports all the operations of a basic Web feature service and supports the Transaction and (optional) LockFeature operations. OGC WFS-T implements these read–write operations.

OGC Web Map Server (OGC WMS)—A server that responds to OGC WMS requests to produce maps of georeferenced data. The OGC specification of the WMS defines three WMS operations—GetCapabilities, GetMap, and (optional) GetFeatureInfo.

OGC Web Map Server with Styled Layer Descriptor (OGC WMS-SLD) support—An extension of the OGC WebMap Server used to support an SLD. SLD allows retrieving features from a Web feature service and applies explicit styling information provided by the user in order to render a map.

OGC Web Registry Service (WRS)—An instance whose behavior follows an interface specification describing the requests and responses to be handled by a standard service metadata registry or catalog server.

Open GIS Consortium (OGC)—An international industry consortium of private companies, government agencies, and universities, which promotes interoperability by developing and publishing implementation specifications.

OpenLS Core Services—Incorporates gateway services that integrate OpenLS location application services with position determination equipment, directory services for searching items such as Yellow Pages and travel guides, route determination services that provide navigation, geocode (address to *x,y*) and reverse geocode (*x,y* to address) services, and map/feature display services.

Profile—A set of one or more base standards or subsets of base standards that limits the generic form of a broader protocol. GML is a profile of XML.

Schema—An abstract representation of an object's characteristics and relationship to other objects.

Simple Features Specification—OpenGIS specification for open interfaces that enables diverse systems to communicate using simple vector features composed of points, lines, and polygons. Three profiles have been released—SQL, COM-based, and CORBA-distributed computing platforms.

Simple Object Access Protocol (SOAP)—This protocol standardizes the way a Web service communicates with a client and allows programs written in different languages and on different platforms to be compatible.

Styled Layer Descriptor (SLD) document—This document describes the composition and styling of a map.

Test Bed—Experiment in which participants (usually vendors) work to make their respective products interoperate.

Universal Description, Discovery, and Integration (UDDI)—A universal database of Web services that facilitates the discovery of services. Discovery happens through a Web interface or a SOAP call.

Web Feature Service (WFS)—An instance whose behavior follows an interface specification describing the requests and responses to be handled by a standard feature server.

Web Map Service (WMS)—An instance whose behavior follows an interface specification describing the requests and responses to be handled by a standard map server.

Web Service Description Language (WSDL)—A document that defines a Web service so that a client will know what the service does. Web services toolkits such as .NET or The Mind Electric Glue read a WSDL and generate client code for the service.

XML for Open Location-based Services (XLS)—This is an XML encoding for the transport and storage of geographic information in application to the location-based services.