OGC®

Open Geospatial Consortium (OGC)

Technology Office

4899 North Old State Road 37
Bloomington, IN 47408

Telephone: +1-812-334-0601
Facsimile: +1-812-961-2053

Request for Quotation (RFQ)

And

Call for Participation

OGC Web Services Initiative - Phase 6 (OWS-6)

RFQ Issuance Date: July 21, 2008

Proposal Due Date: September 5, 2008

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1   Introduction

1.1   Purpose

The Open Geospatial Consortium (OGC®) has released this Request for Quotation (RFQ)/Call for Participation (CFP) in order to solicit proposals in response to a refined set of requirements for the OGC Web Services Initiative Phase 6 (OWS-6). This request is issued as an RFQ/CFP for two reasons. The first reason is that OGC (in collaboration with a group of sponsors) is providing cost-sharing funds to partially offset expenses uniquely associated with the initiative. The second reason is that OGC intends to involve as many participants in the initiative as possible and thus is soliciting contributory proposals that will enhance and/or make use of the initiative outcomes.

1.2   Background

The OGC is engaged in an Interoperability Program which is a global, hands-on and collaborative prototyping program designed for rapid development and delivery of proven candidate specifications into OGC's Specification Program which can then be formalized for public release. In OGC's Interoperability Initiatives, international technology developers and providers team together to solve specific geo-processing interoperability problems posed by the initiative's sponsoring organizations.   OGC Interoperability Initiatives include test beds, pilot projects, interoperability experiments, and interoperability support services – all designed to encourage rapid development, testing, validation and adoption of open, consensus based standards specifications.

The policies and products that define the OGC Interoperability Program are available here: http://www.opengeospatial.org/about/?page=ippp

In March of 2008, the OGC issued a call for sponsors for an OGC OWS-6 Interoperability initiative testbed activity to advance OGC's open framework for interoperability in the geospatial industry. Three meetings were conducted with potential OWS-6 sponsors to review the OGC technical baseline, discuss OWS-6 results, and identify OWS-6 requirements. Sponsors have expressed interest in advancing standards for sensor webs, secure web services, aviation information management, 3D routing and tracking, and geospatial processing workflow. After analyzing the sponsors input, the OGC Interoperability Team recommended to the sponsors that the content of the OWS-6 initiative be organized around the following six five threads over two initiative phases:

1) Sensor Web Enablement (SWE)

2) Geo Processing Workflow (GPW)

3) Aviation Information Management (AIM)

4) Geospatial Decision Support Services (DSS)

5) Compliance and Interoperability Test and Evaluation (CITE)

1.3   The RFQ Process

The OWS Initiative Management team (consisting of OGC and the sponsors) has established requirements and architecture (see attached Annex B) for the initiative. A set of sponsor requirements, a Work Breakdown Structure intended to achieve those requirements and how these requirements will be phased are presented in Annex A. The Concept of Operations for the OWS is attached as Annex C. This Concept of Operations describes the detail needed to understand the planned operation of the initiative for a suitable response to this RFQ. Annex C also contains an assignment of OWS week numbers to calendar weeks to

allow for common communication of timeframes. Annex D details the communication plan for OWS-6 Initiative.

This RFQ is being released to respondents to prior OGC efforts as well as to organizations that did not respond to earlier initiatives. Broad participation is encouraged in order to achieve OGC's interoperability objectives on a voluntary basis. Specifically, all organizations are invited to contribute to the design of the capability identified in the effort and explore architectural alternatives, performance characteristics, and ease of application development as direct input into the technology development activity of OGC. Participants will also be asked to examine the probable direction of the industry, propose evolutionary (or revolutionary) models for interoperable web services, and identify associated alternatives for study during the course of the initiative.

All organizations interested in participating in the Testbed effort shall respond with a proposal. Instructions for submitting proposals are provided in Section 4. Annex A provides requirements and the WBS to guide the development and structure of responses. The Concept of Operations describes how the proposals will be analyzed, used to revise the Testbed Architecture, the Concept of Operations, a Demonstration Concept for the Testbed effort, and other details associated with the process of determining participants in the Testbed. All participants should recognize that this does not reflect a change in OGC philosophy relative to reimbursing members for their support of OGC initiatives. The limited cost-sharing funding available is intended to help partially offset engineering costs incurred by participants in support of this effort. **No funds shall be used to procure any proprietary hardware or software associated with this effort.**

Each organization with a role in the initiative shall sign a Participation Agreement that includes a statement of work (SOW) or a statement of participation (SOP) with OGC that outlines roles and responsibilities of each participant. By doing so, participants will agree to work together for the realization of the OWS-6 initiative goals and for the benefit of the industry. Draft versions of the SOW and SOP will be made available to all interested parties. The last date of submission of SOP is the first day of Kickoff Meeting as indicated in the Master Schedule (Section 4.6).

1.4   Benefits to Participants

The OWS-6 initiative provides a business opportunity for vendors, users, and other interested parties to mutually define services, interfaces and protocols (as Interoperability Program Reports (IPRs)) in the context of a hands-on engineering experience expected to shape the future of geospatial and imagery related Web Services software development and Web data publication. The sponsors are supporting this vision with cost-sharing funds to partially offset development costs associated with this capability and interoperable web service demonstrations. This offers OGC members a unique opportunity to recoup a portion of their expenses related to the OWS-6 initiative. Additionally, this effort has well-defined objectives, while providing a significant opportunity to explore alternatives in a unique hands-on engineering context.

1.5   Intellectual Property in the Testbed

The OWS-6 Testbed will be conducted in accordance with the OGC Intellectual Property Rights Policy and Procedures which can be found here: http://www.opengeospatial.org/about/ipr

It is the objective of the testbed to support the OGC Specification Program in the development and publication of open standards.   Participants in the Testbed will be required to allow OGC to create "Specifications" based in whole or in part upon any intellectual property contributed by Participant in connection with the Testbed ("Participant IP").   OGC shall be the owner of the copyright in all Specifications and any documentation with respect to such Specifications.   Participant will be required to grant OGC a perpetual, non-exclusive, royalty-free license, with right to sublicense, to the patent rights in any Participant IP to the extent incorporated in, and necessary for the use of, the Specification. Beyond these requirements, Participant retain ownership in all Participant IP, including all patent, trade secret, copyright and other intellectual property rights in the Participant IP.

2   Context

The initiative sponsors and OGC have worked to outline specific functional requirements that represent geospatial web service user requirements. Fundamental among these requirements is the basic need for interoperability between software components in multi-vendor settings. The high-level objectives of this effort are three-fold:

(1) Focus on common architecture for OGC Web Services,

(2) Harmonize and mature the specifications in line with the common architecture, and

(3) Support the development of OGC based implementations within the OWS-6 architecture to meet sponsor application requirements.

Documenting the interfaces and protocols used in the OWS and lessons learned in using them in the construction of demonstrations will be the means to realizing the last objective.

2.1   Open Geospatial Consortium (OGC)

The proposing organization must be an OGC member and familiar with the OGC mission, organization, and process. Proposals from non-members will be considered, if a completed application for OGC membership or a letter of intent to become a member is submitted prior to or along with the proposal.

2.2   Operational Context

The use cases provided in Annex B describe activities and information exchanges to be demonstrated in the initiative effort. The specific scenario that will be used in the demonstration effort will be developed according to the plans set forth in the Concept of Operations (Annex C) beginning with a draft Demonstration Concept. Specific OWS functional requirements are provided in Annexes A and B.

2.3   Technical Context

The OWS-6 RFQ addresses a phase of a longer-term activity directed towards identifying and developing consensus-based open standards for use in interoperable web services. Participants in this initiative will implement some of the software components in the architectural cases provided in Annex B. Other than the architecture described in Annex B, participants will have flexibility in designing the interoperable interfaces and protocols for use in the demonstrations associated with the operational context. Specific technical requirements are provided in Annexes A and B.

The deliverable requirements are summarized in this RFQ in Table 1 of Annex A.

The OGC portal provides a Glossary of Terms at the following URL that may be useful to aid in understanding and interpretation of terms and abbreviations contained throughout this RFQ:

http://www.opengeospatial.org/resources/?page=glossary

2.4   System Context

The architecture presented in Annex B is based on the current "mainstream" approach to web services and was selected to provide the best opportunity for meeting the sponsors' requirements. This architecture is not intended to drive the physical system configuration, but to identify the interfaces and protocols within the current mainstream approach to web services. For example, details of the initial interfaces and protocols and how they are distributed across physical systems in the initiative are not included in the Architecture – those decisions will be left to the participants.

3   Participant's Role in the Testbed

There are several possible roles that organizations may play in the initiative. These are:

- Developer of one or more software components implementing interfaces and protocols agreed in the early stages of the initiative for one or more of the services described in Annexes A and B,

- Developer of demonstrations and tests of the implemented software components, and/or

- Provider of data, personnel, software, hardware, or facilities that will contribute to the overall success of the initiative.

Participants should propose specifically against funded Work Items for both phases provided by the sponsors (see Annex A), but may go beyond that to request and propose in-kind contributions that address unfunded requirements. Participants should note that sponsors are only committed to funding Work Items labeled as funded in this current RFQ.

4   Proposal Submission Information

4.1   General Terms and Conditions

Documentation submitted in response to this RFQ will be distributed to members of OGC staff, the IP Team, and sponsor staffs. Submissions will remain in the control of this group and will not be used for other purposes without prior written consent of the proposing organization. Please note that you will be asked to release the content of your proposal (less financial details) once you agree to participate in the testbed effort. Proprietary and confidential information must not be submitted under this request.

Participants will be selected to receive cost sharing funds on the basis of adherence to the requirements stipulated in this RFQ and the overall quality of their proposal. The primary objective of OWS Sponsors is to use cost sharing funds to promote the development of open consensus standards based on successful implementation and demonstration. We encourage respondents to exploit the results of innovative R&D efforts, but the objective is operational implementations that support the standards. Respondents are asked to define the migration path for producing operational solutions. Those proposing organizations not selected for cost sharing funds are encouraged to participate in OWS on an in-kind basis.

Each participant will be required to enter into a contract with OGC. This agreement will define participant responsibilities, and by signing the contract all participants will agree to work together towards the common goals of the initiative. Further details on this issue are found in the Concept of Operations (Annex C).

4.2   Submission Instructions

Submissions to this request shall be "complete"; i.e., your submission must provide all information requested in section 0 to be considered further. Submissions shall use the response template provided in the RFQ package. The submission shall consist of a technical volume and a cost volume. An outline with page limits is provided in section 5.1. Reviewers will be instructed to not read or evaluate any materials in excess of the page limits. Each requirement set description shall begin on a new page.

4.3   How to Submit

Submit an electronic copy of your proposal to the OGC Technology Desk (techdesk@opengeospatial.org). Microsoft Word® 2000 for Windows, 2001 for Macintosh or higher format is preferred; however, Portable Document Format or Rich Text Format is acceptable.

Proposals must be received at OGC before the date in the OWS-6 Master Schedule (Section 4.6).

4.4   Questions and Clarifications

Questions and requests for clarification should be sent electronically to the OGC Technology Desk (techdesk@opengeospatial.org), by mail to the address in section 4.3, or by facsimile transmission (+1 812-961-2053). All clarifications will be posted to the OWS-6 WWW Site (http://www.opengeospatial.org/projects/initiatives/OWS-6) and to the OGC Technical Committee electronic mail reflector. Questions must be submitted before the date in the OWS-6 Master Schedule (Section 4.6).

4.5   Reimbursements

The OGC will not reimburse submitters for any costs incurred in connection with preparing proposals in response to this RFQ.

4.6   Master Schedule

The following table details the major events associated with this RFQ:

OWS 6	
RFQ Issued	July 21, 2008
Questions Due & Bidders' Conference	August 8, 2008
Clarifications Posted	August 25, 2008
RFQ Responses Due	September 5, 2008
Kickoff Meeting	October 14-17, 2008
Interim Milestone	December 12, 2008
Demonstration Milestone	week of March 30, 2009 (TBR) (screen captures)
Final Delivery	April 17, 2009 (all final reports are due)
Interoperability Day at OGC TC	June 2009 (live & screen capture demonstrations)

5   Proposal Format and Content

5.1   Proposal Outline

As part of this RFQ archive you will find two templates: the response template and a single spreadsheet template for both the cost sharing request and in-kind contributions. Proposing organizations shall use these templates in preparing their proposals. The proposal should follow the outline:

Technical Proposal

- Cover page

- Overview (Not to exceed two pages; will not contribute to technical evaluation)

- Proposed contribution (Basis for Technical Evaluation)

  - Sensor Web Enablement (SWE) (Not to exceed seven pages)

  - Geo Processing Workflow (GPW) (Not to exceed seven pages)

  - Aviation Information Management (AIM) (Not to exceed seven pages)

  - Geospatial Decision Support (DSS) (Not to exceed seven pages)

  - Compliance and Interoperability Test and Evaluation (CITE) (Not to exceed seven pages)

- Proposed contribution cross referenced to WBS (Contributes to Management Evaluation)

Cost Proposal (Not to exceed seven pages)

- Level of Effort

- Facilities

- Hardware

- Software

- Operational Software Maturation Plan (Not to exceed 2 pages)

- Cost sharing request (Excel template for reporting costs is archived with the RFQ)

- In-Kind contributions (Excel template for reporting in-kind contributions is archived with the RFQ)

Each of these Technical and Cost Proposal Sections is described below.

5.2   Cover Page

Provide the name(s) of the proposal submitter(s) and point of contact information. Teams should list all teammates and point of contact information for each. When submitting point of contact information, please provide both a business/financial and technical point of contact.

5.3   Overview

Provide an introduction to the contents of your proposal and its benefits.

5.4   Proposed Contribution

Describe your proposed contribution to the initiative based on your desired role consistent with the Testbed Architecture (Annex B). Please do not just repeat a previous OWS testbed RFQ response. The initiative emphasis is on interoperable solutions to the sponsors' functional requirements and your RFQ response should be developed from that perspective. Justify your approach.

5.4.1   Specification Development

If you plan to contribute or support the development of interoperability specifications for interfaces, operations, encodings, messages, or other relevant technologies, please include the following in your proposal:

(1) Your views on the OWS Common Architecture.

(2) Suggested modifications/additions you would recommend OWS pursue during the OWS-6 Initiative.

(3) A list of personnel and brief summary of their qualifications to carry out these tasks.

(4) Role and Responsibilities of your technical representative e.g., Interoperability Program Report author, schema editor, model designer, or technical contributor. Technical contributors shall write or design subsets of the specification. Everyone is expected to review work in progress.

5.4.2   Component Development

If you plan to contribute to the development of components within the Testbed Architecture, please include in your proposal as much detail as possible concerning the operating system, hardware, programming language, and proprietary software requirements or constraints that relate to your proposed development effort. Please provide the migration path for proposed components. Proposing organizations are encouraged to develop a server component to develop a client component that exercises the functionality of the server(s) being provided.

If you wish to provide a candidate starting point (i.e., an interface or protocol definition) for any of the cases in which you propose to have a role, please contribute this with your proposal.

5.4.3   Demonstration or Test Development

If you are proposing to develop demonstrations or tests, please provide as much detail as possible concerning your proposed effort. Delineate aspects of the sponsor scenarios to which you believe you can contribute. In particular explain how your work will show the sponsor's desired level of interoperability.

Do not assume a single vendor demonstration; rather the demonstration will be showing how your technology can interoperate with other participant's technology.

5.4.4   Data

If you are proposing to contribute data to the effort, please indicate the format of the data (if applicable) and any proprietary software access requirements (if applicable). Please include the geographic coverage of the data, a thematic description of the data, geodetic context of the data and any other relevant metadata. Please also indicate alternate formats or access capabilities that you are willing to support, if necessary. Match your data contribution with a use case in Annex B.

5.4.5   Personnel

If you are proposing to contribute personnel to the initiative, please indicate the capabilities and experience of the personnel, location and mobility information (in other words, will the personnel need to remain at their present location? Will you support travel?). Indicate which personnel would be able to participate in kickoff activities and other testbed site activities.

5.5   Proposed Contribution Cross Referenced To WBS

Review the WBS found in Annex A and map your proposed contribution to the task categories and items found there. Indicate which requirements are being met with your contributions in the descriptions of activities that your organization proposes to undertake.

5.6   Level of Effort Estimate

Please provide an estimate of the value of your proposed contribution, including engineering, management, communications, travel, and so forth. Please begin this section on a new page so that it can be separated from the main body of your proposal.

5.6.1   Facilities

If you are proposing facilities, please include as much detail about the configuration of hardware and software at the facility, the network access and restrictions (if any), and the level of operational support in place at the facility. Please provide information about your organizational approach to configuration management.

5.6.2   Hardware

If you are proposing to contribute hardware to the effort, please include a complete description of the hardware.

5.6.3   Software

If you are proposing to contribute software to the effort, please include a complete description of the software. You must include information about the operating environments that you intend to support in the context of the testbed.

5.6.4   Operational Software Maturation Plan

If you are proposing in the technical volume to provide software components that are either enhancements of your existing product line or entirely new products which exercise the specifications developed or enhanced during the course of this initiative then you must provide an Operational Software maturation plan. This plan shall identify the product in question, the specifications exercised by the product and the anticipated date of public availability of the product.

5.7 Cost-Sharing Request

This section is *required* only from proposing organizations requesting cost sharing funds. Please provide a requested amount of cost-sharing funds (in US Dollars) and provide details of the costs that are being offset (e.g., labor category, number of hours, and hourly rate). Note that the sponsors intend to provide cost-sharing funds for only those activities uniquely attributable to initiative participation; e.g., a recipient should not request funds to offset costs that would have otherwise been incurred and funded through some other source such as internal research and development funding. This section must include a certification that the proposed reimbursable costs would not be otherwise incurred in support of non-Testbed activities. Use the attached cost-sharing template to itemize the costs being offset. This should be included in the section beginning with Level of Effort Estimate.

5.8 In-Kind Contributions

Please provide an indication of the in-kind contributions that your organization will make to the OWS initiative. This should reflect such contributions as labor, equipment, software, or data. Use the attached in-kind contribution template to itemize the contributions being provided. The sponsors and OGC will use this information in the development of future initiatives. This should be included in the section beginning with Level of Effort Estimate.

6   Evaluation Criteria

OWS-6 responses will be evaluated according to criteria set by the Sponsors. Those criteria can be divided into three areas: Technical, Management, and Cost.

6.1 Technical

The Technical criteria are described below.

- All applicable Requirements in the RFQ are addressed in the proposal

- Proposal provides risk-adjusted technical approach in support of the requirements

- Creativity and originality in the proposed solutions

- Proposed solutions could be executed within available resources

- Proposed Solutions are directed to achieve the goals set forth by OWS-6 initiative

6.2   Management

- Proposal adheres to and addresses all elements of Work Breakdown Structure

- Willingness to share information and work in a collaborative environment

- Achieves Sponsors' goals of enhancing availability of SCOTS or standards-based open source products in the market place

6.3   Cost

- Cost-share request is reasonable for proposed effort

- In-kind contribution is of value to OWS-6 initiative