

## **Open Geospatial Consortium**

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**Request For Quotation**

**And**

**Call For Participation**

**in the**

**OGC<sup>®</sup> KENTUCKY WATERSHED MODELING INFORMATION  
PORTAL (KWMIP) PILOT PROJECT**

RFQ Issuance Date: February 14, 2006

Proposal Due Date: March 7, 2006

Revision History

Date	Paragraph	Description

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**Annex A: KWMIP Requirements and Work Breakdown Structure**

**Annex B: KWMIP Web Services Architecture**

**Annex C: KWMIP Concept of Operations**

**Annex D: KWMIP Web Services Communications Plan**

# 1 Introduction

## 1.1 Purpose

The purpose of this Request For Quotation (hereafter referred to as RFQ) is to solicit your proposal in response to a refined set of requirements for the Open Geospatial Consortium (OGC) OGC Web Services KWMIP Pilot Project. This request is issued as an RFQ for two reasons. The first reason is that OGC (in collaboration with a sponsor) is providing **cost-sharing** funds to 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 KWMIP project plays an important role in the overall realization of the Commonwealth of Kentucky's geospatial services architecture Annex A, Appendix A.

This procurement is the OGC contribution to that project and will result in the provision of a reference service for Kentucky.

## 1.3 The RFQ Process

The KWMIP Initiative Management team (consisting of OGC and the sponsor) has established an initial Initiative Architecture (attached as Annex B). A set of sponsor requirements and a Work Breakdown Structure intended to achieve those requirements are presented in Annex A. A Concept of Operations for the KWMIP 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 KWMIP week numbers to calendar weeks to allow for common communication of timeframes. Annex D details the communication plan for KWMIP.

This RFQ is requests support for broader OGC interoperability objectives. Specifically, any organization is 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.

*All organizations interested in participating in the project 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 project Architecture, the Concept of Operations, a Demonstration Concept for the project effort, and other details associated with the process of determining participants in the project. 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 funding available is intended to offset costs incurred by participants in support of 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 initiative goals and for the benefit of the industry. Draft versions of the SOW and SOP will be made available to all interested parties. Your SOW or SOP shall be submitted no later than March 10, 2006, if you wish to participate in KWMIP.

## **1.4 Benefits to Participants**

OGC perceives the OGC Web Services Initiative KWMIP as a prime opportunity for vendors, users, and other interested parties to mutually define services, interfaces and protocols (and thus Interoperability Program Report (IPR) engineering specifications) 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 backing their belief in this vision with funds to offset development costs associated with this capability and interoperable web service demonstrations. Another benefit is that this effort has well-defined objectives, while providing a significant opportunity to explore alternatives in a unique hand-on engineering context.. The KWMIP initiative is expected to add to a significant core capability that continues to be the basis for a continued long-term initiative effort.

## **2 Context**

The initiative sponsor has worked with OGC to outline specific functional requirements that are representative of watershed modeling 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: first, to focus on common architecture for KWMIP Web Services, second, harmonize and mature the specifications in line with the OGC Common Architecture, and finally, to support the development of OGC based implementations within the KWMIP architecture to meet sponsor application requirements. Documenting the interfaces and protocols used in the KWMIP 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**

This RFQ assumes the recipient is not only familiar with the OGC mission, organization, and process, but is an OGC member. Non-member proposals will be considered only if a completed application for OGC membership accompanies or precedes a letter of intent stating that the organization in question will submit a proposal. Funds to activate the membership will be accepted as late as March 15, 2006.

### **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 KWMIP functional requirements are provided in Annexes A and B.

### **2.3 Technical Context**

This project will produce a reference watershed modeling service based on OGC specifications that will serve as the framework for future expansion in the Commonwealth of Kentucky. It will include the ability serve data from the state level. Participants in this initiative will implement 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 to provide the services not currently defined by OGC and for use in the demonstrations associated with the operational context. Specific technical requirements are provided Annex A.

### **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 sponsor’s 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.

### 3 Your Role in the Project

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

- Developer and provider 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.

### 4 RFQ 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. Those proposing organizations not selected for cost sharing funds are encouraged to participate in KWMIP on an in-kind basis.

Each participant, funded or unfunded 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 5 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 Open Geospatial Technology Desk (techdesk@opengeospatial.org) at OGC. Microsoft Word® 6.0 or higher format is preferred; however, Portable Document Format or Rich Text Format is acceptable.

Or you may send responses to this RFQ (and other communication regarding this RFQ) to:

Regular mail: Open Geospatial Technology Desk  
Or Express packages<sup>1</sup>: Open Geospatial Consortium, Inc.  
4899 North Old SR 37  
Bloomington, IN 47408-9239  
USA

Proposals must be received at OGC no later than 1700 EST (2200 UTC) March 7, 2006.

#### **4.4 Questions and Clarifications**

Questions and requests for clarification should be sent electronically to the Open Geospatial 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 KWMIP WWW Site (<http://www.opengeospatial.org/initiatives/?iid=198>) and to the OGC Technical Committee electronic mail reflector.

#### **Bidder's Conference**

OGC will hold a telephonic bidder's conference on February 23, 2006. Questions must be sent by electronic mail to bidder@Open Geospatial.org by 2200 GMT on February 21, 2006, to be considered during the conference. The teleconference can be attended by dialing +1 (for callers outside of North America) Area Code 512-225-3050. The passcode is 36429#. It will start promptly at 1 p.m. Eastern Standard Time 1800 GMT.

#### **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 Schedule**

The following table details the events and activities associated with this RFQ (more details can be found in Annex C):

RFQ Issued	14 February 2006
Bidders Conference	23 February 2006
RFQ Responses Due	7 March 2006
Kickoff	15 March 2006
Completion	25 August 2006

### **5 RFQ Format and Content**

#### **5.1 Proposal Outline**

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

**Technical Volume**

- Cover page
- Overview (Not to exceed two pages; will not contribute to technical evaluation)
- Proposed contribution (Basis for Technical Evaluation)
  - Common Architecture (Not to exceed two pages)
  - Technical Baseline Maturation (Not to exceed two pages)
  - Pilot Reference Implementation (Not to exceed seven pages)
  - Information Interoperability (Not to exceed two pages)
- Proposed contribution cross referenced to WBS (Contributes to Management Evaluation)

**Cost Volume (Not to exceed seven pages)**

- Level of Effort
- SCOTS or Standards-based Open Source 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 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 each thread of the initiative based on your desired role (consistent with the Testbed Architecture (Annex B). Please organize your description using the categories described in paragraphs 5.4.1 through 5.4.8 below. The emphasis of this initiative is on interoperable solutions to the sponsors' functional requirements. Your RFQ response should be developed from that perspective. Justify your approach.

### **5.4.1 Specification Development**

If you are proposing to contribute to the development or support of the development of interoperability specifications for interfaces, operations, encodings, messages, or other relevant technologies, please indicate your views on the Architecture and the modifications/additions you would recommend KWMIP pursue during the course of the initiative. Also indicate what personnel you would assign to these tasks and what background experiences qualify them to support this key activity.

All proposing organizations are strongly encouraged to address this activity in their proposals. Please provide details on how your technical representatives will participate in this activity. Roles that your



technical representatives can perform are 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 are proposing 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 SCOTS migration path for proposed components. We strongly encourage organizations that are proposing 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.

#### **5.4.6 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.

#### **5.4.7 Hardware**

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

#### **5.4.8 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.

### **5.5 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.

### **5.7 SCOTS or Standards-based Open Source 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 a SCOTS 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.

### **5.8 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.

### **5.9 In-Kind Contributions**

Please provide an indication of the in-kind contributions that your organization will make to the KWMIP 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**

KWMIP-2 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.

- Requirements are addressed
- Response shows KWMIP reasonable technical approach that supports accomplishing requirements
- Creativity and originality
- Appears implementable
- Is relevant to initiative goals

## **6.2 Management**

- Adheres and addresses Work Breakdown Structure
- Willingness to work in collaborative environment
- Achieves Sponsor goal 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 initiative