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Request For Quotation

And

Call For Participation

in the

EMPIRE CHALLENGE 09 PILOT (EC09 OGC PILOT)

RFQ Issuance Date: December 22, 2008

Proposal Due Date: January 14, 2009

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1 Introduction

1.1 Purpose

The purpose of this Request For Quotation and Call for Participation (hereafter referred to as RFQ/CFP) is to solicit your proposal in response to a refined set of requirements for the Empire Challenge 08 OGC Interoperability Pilot. This request is issued as an RFQ/CFP for two reasons. The first reason is that the sponsor is providing **cost-sharing** funds to offset expenses uniquely associated with the initiative. The second reason is that the sponsor and OGC intend to involve as many participants in the initiative as possible and thus are soliciting contributory proposals that will enhance and/or make use of the initiative outcomes. It is anticipated that OGC's IP Team and the funded participants will assist other organizations that are neither OGC members nor Pilot participants with integration into the Services Oriented Architecture that will be instantiated. Organizations that fall into that category are encouraged to respond to this call so that coordination of effort can begin as soon as possible.

Please be Advised:

Funding has not yet been authorized to conduct this work. That authorization is expected on January 5, 2009, but the time schedule for your response will be so short after that, that we are issuing the request before funding has been guaranteed by the sponsor. You should use the time between now and a Bidder's Conference scheduled for January 6th, to gain familiarity it and pose questions if you have them. We do not recommend that you actually begin to write a proposal until the Authorization to Proceed (ATP) has been received by OGC.

1.2 Background

The EC09 OGC Pilot will build on the lessons and successes of the EC09 Pilot that examined the suitability and performance of **OGC Sensor Web Enablement (SWE) and OGS Web Services (OWS)** implementations for providing open standard management of and access to sensors of varied types and web service access for analysts to the resulting data and products. Because of the linear nature of a multiple year demonstration cycle some documents needed to conduct this effort will be prepared by IP Team and furnished to the participants, and not created by the participants. These include the As-Built Architecture documentation from the EC08 effort that will serve as the architecture for EC09, designation of which OGC standards and versions will be used, designation of profiles of those standards where they are needed, designation of GML/XML schemas and provision of sample messages complete with appropriate data.

The OGC effort will concentrate on supporting the Multi-Doman Awareness Joint Capability Thread now being defined for EC09. That thread from EC09 is part of the materials provided with this request. It will be updated and extended with the cooperation and help of this year's participants.

The organizational concept of the EC09 OGC Pilot involves coordination assistance from the Open Geospatial Consortium built out on the OGC Network using services provided by pilot participants and also other public data behind OGC services. This RFQ/CFP is soliciting partners to provide and deploy hardware / software as well as collaborating on the final technology design for the pilot network. The sponsor is particularly interested in adding OGC-service capability to examples of clients that are either currently deployed in the Global War on Terror (GWOT) or are planned to be in one of the active theaters within 12 months.

The sponsor will make two selections during the Pilot: Select those proposals to be offered cost-sharing funds to participate in the OGC Network based preparation, and select those participants from the unclassified Pilot to be transitioned to the Empire Challenge 09 Demonstration classified environment. The Empire Challenge classified environment will be integrated with the DIA Sensor Web service oriented

architecture that was demonstrated in EC 08. Our goal is to put new services and sensors into the Sensor Web.

Participation in both phases is open to all prospective participants. OGC and the sponsor will process the paperwork needed to make that transition if the hardware and software chosen has not already been approved by one of the countries or organizations participating. Those potential approving authorities include the U.S., Canada, United Kingdom, Australia, New Zealand and NATO. It will not be possible for personnel without clearances to install and maintain software on the network, but OGC will provide engineering assistance to install, operate and maintain such programs if they are funded.

1.3 The RFQ/CFP Process

The EC09 OGC Pilot Initiative Management team (consisting of sponsor and OGC personnel) has established a set of sponsor requirements. Those requirements and a Work Breakdown Structure intended to achieve those requirements is presented in Annex A. A Conceptual Architecture is presented in Annex B. A Concept of Operations for the EC09 OGC Pilot which includes the schedule 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 EC09 OGC Pilot week numbers to calendar weeks to allow for common communication of timeframes. Annex D details the communication plan for EC09 OGC Pilot. Annex D will be published in January and is not needed to respond to this RFQ/CFP. Annex E contains the MDA documentation and other information from EC08 that may be helpful to you in understanding the requirements and operating environment.

This RFQ/CFP requests support for broader OGC interoperability objectives. Specifically, any organization is invited to contribute to the demonstration of the capability identified in the effort and to explore architectural implementation, 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 signed and submitted no later than February 25, 2009, if you wish to receive funding in the EC09 OGC Pilot.

1.4 Benefits to Participants

OGC perceives the EC09 OGC Pilot as a prime opportunity for vendors, users, and other interested parties to mutually refine services, interfaces and protocols in the context of a hands-on engineering experience expected to shape the future of geospatial and imagery related SWE and Web Services software development and Web data publication. The sponsor is backing its 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 hands-on engineering context. The EC09 OGC Pilot initiative is expected to add to a significant core capability that continues to be the basis for a continued long-term initiative effort. Subject to future funding decisions it is expected that OGC SWE and Web Services will also be part of Empire Challenge 09

2 Context

The initiative sponsor has worked with OGC to outline specific functional requirements that are representative of sensor web and web feature service user requirements. Fundamental among these requirements is the basic need for interoperability. This includes interoperability between software components in multi-vendor settings. It also includes information and operational interoperability between data partners across a 'linked system of sensors and a distributed federation of Web Feature Servers. The high-level objectives of this effort are three-fold: first, to focus on common architecture for the EC09 OGC Pilot SWE and Web Services Network, second, harmonize and mature the specifications particularly regarding performance characteristics and appropriate use, and finally, to support the development of OGC based implementations within the EC09 OGC Pilot architecture to meet sponsor application requirements. Documenting the interfaces and protocols used in the EC09 OGC Pilot as well as the performance obtained and lessons learned in using them in the construction of tests and demonstrations will be the means to realizing the last two objectives.

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 February 6, 2009.

2.2 NGA and Empire Challenge 09

This RFQ assumes the recipient is familiar with NGA or allied defense and intelligence, surveillance and reconnaissance programs and the Empire Challenge series of demonstrations. In the classified environment, for the software to be integrated there, the Distributed Common Ground Station (DCGS) and the DCGS Integration Backbone (DIB) provide the underlying foundation needed to manage and share defense and intelligence information (e.g. maps, satellite images) over a digital network. It consists of four key components:

- Data and Data Products
- Common data policies
- Technical standards
- Enabling technologies

The DCGS/DIB supports the shared decision making necessary for resolving many horizontal and coalition warfare challenges. The DCGS/DIB serves as a common foundation for key defense and intelligence information systems. The specific classified network that will be used for the OGC Pilot has not been selected, but it will be one or both of the DCGS Development Test Environment, or a subset of the Coalition Forces Battle Lab (CFBL) network. In conjunction with several other initiatives the pilot will provide an opportunity to better understand and evaluate the concepts of a Service Oriented Architecture. The goals of the EC09 OGC Pilot are aligned with the goals of the EC09 demonstration as a whole.

2.3 Operational Context

The use cases provided in Annex B describe activities and information exchanges to be realized and demonstrated in the initiative effort. The specific scenario that will be used in the demonstration effort and persistent pilot capability will be developed according to the plans set forth in the Concept of Operations (Annex C) beginning with a draft Demonstration Concept. Specific EC09 OGC Pilot functional requirements are provided in Annexes A and B.

2.4 Technical Context

This project will produce a reference SWE/Web service network based on OGC and Web specifications that will provide guidance for future SOA expansion in the DCGS environment. It will include the ability to serve data from the DCGS / Image Product Library (IPL) level. Participants in this initiative will implement the software components in the architectural cases provided in Annex B. Specific technical requirements are provided in Annex A.

2.5 System Context

The architecture presented in Annex B is based on the As-Built and proven work in EC08. 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 and/or hardware components implementing interfaces and protocols 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 content, 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/CFP will be distributed to members of the EC09 staff, sponsor(s), OGC staff, and assigned IP Team members. 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 pilot 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/CFP and the overall clarity of their proposal. Those proposing organizations not selected for cost sharing funds are encouraged to participate in EC09 OGC Pilot at their own expense 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/CFP 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 packages¹: 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 (2100 UTC) January 14, 2009.

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 EC09 OGC Pilot WWW Site <http://www.opengeospatial.org/requests/46>.

Bidder's Conference

OGC will hold a face to face and telephonic bidder's conference in the U.S. National Capital Region January 6, 2009 . The conference can be attended remotely by dialing +1 (for callers outside of North America) Area Code 512-225-3050. The passcode is 55699#. It will start promptly at 12:00 p.m. (noon Eastern Standard Time [1700 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 | 22 December 2008 |
| Bidders Conference | 6 January 2009 |
| RFQ Responses Due | 14 January 2009 |
| Kickoff | 10-11 February 2009 |
| EC09 Live Demonstration | 13-31 July 2009 |
| Completion of Pilot Activities | 9 February 2010 |

5 RFQ/CFP Format and Content

5.1 Proposal Outline

As part of this RFQ/CFP 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 one page)
 - Technical Baseline Maturation (Not to exceed one page)
 - Pilot Reference Implementation (Not to exceed five pages)
 - Demonstration of Information Interoperability (Not to exceed two pages)
- Proposed contribution cross referenced to WBS (Contributes to Management Evaluation)

Cost Volume (Not to exceed four 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 CGDI 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 refinement or support the refinement of interoperability specifications or Best Practices for interfaces, operations, encodings, messages, or other relevant technologies, please indicate your views on the Architecture and the modifications/additions you would recommend that EC09 OGC Pilot 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 software and / or hardware components within the Pilot 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.

Extent of component development which may be proposed include:

1. Installation and configuration of software on data provider hardware at data provider site. This could be an Imagery Product Library (IPL) site at Reston 3 for the classified work, or anywhere in the world for the unclassified OGC Network.
2. Installation and configuration of software on respondent's hardware to be located at a data provider site, NGA Reston, or the demonstration site in China Lake, CA.
3. Installation and configuration of software and hardware hosted on behalf of a data provider for the EC09 OGC Pilot at the vendor's own site

Any or all of these extents of involvement will be required depending on the contributions to be made by each data provider.

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 as well as provide reliable measures of service performance and appropriate use.

It will NOT BE a single vendor demonstration; rather the demonstration will be showing how your technology can interoperate with other participant's technology across the EC09 OGC Pilot network. The demonstration will also include interaction with services and clients provided by EC09 participants who are not part of the OGC Pilot.

5.4.4 Data

EC09 OGC Pilot data providers will provide the actual feature datasets for this pilot, but you may propose to contribute other forms of content including metadata which you feel will be required for a successful initiative operation.

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. Any hardware that you provide which is connected to any of the classified networks will result in any storage devices being classified at that level. This means you will either need to hand carry it home or have it shipped to an appropriate facility if you desire to retain the hard drive.

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 EC09 OGC Pilot 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. NGA 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.

It is expected that the in-kind contributions will be approximately equal in value to the cost-sharing requests of each proposer.

6 Evaluation Criteria

EC09 OGC Pilot RFQ/CFP responses will be evaluated according to criteria set by NGA and partners. 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 takes a reasonable technical approach that supports accomplishing requirements
- Creativity and originality
- Appears implementable and involves no more than acceptable risk for a pilot type of initiative
- Is relevant to initiative goals
- Proposed personnel have the necessary skills and experience to support the proposed contribution

6.2 Management

- Adheres to 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
- Previous performance in OGC Interoperability Program Initiatives.

6.3 Cost

- Cost-share request is reasonable for proposed effort
- In-kind contribution is of value to initiative