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Request For Quotation

And

Call For Participation

In the

OGC Web Services Initiative

Initial Operating Capability and Demonstration

Annex C—OWS 2 Concept of Operations

RFQ Issuance Date: November 24, 2003

Proposal Due Date: January 9, 2004

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Annex C: OWS Concept of Operations

1 Introduction

This Annex describes the Concept of Operations for the OGC Web Services Initiative (OWS). This document is organized around eight particular time frames or phases. The phases are:

- Proposal Development (11/24/2003 – 01/09/2004: 35 days: Week CY03 42 - 45)—the time during which RFQ respondent proposals will be developed. This time will also be used by the OGC to develop draft management and communication plans for the initiative operational phases.
- Initiative Design Analysis (01/12/2004 – 02/06/2004: 20 days: Week CY04 3 - 6)—the time that responses will be analysed, the initiative design will be solidified, the initiative architecture¹ will be refined, the initial System Architecture will be revised and a demonstration concept will be determined.
- Participant Negotiations (02/09/2004 - 03/05/2004: 20 days: Week CY04 7 – CY04 19)—the time will also be used to communicate with RFQ respondents concerning their proposals, to negotiate with them on their initiative participation, and to communicate the status of the OWS to the OGC Technical and Planning Committees. During this time, purchase orders for targeted participants and Memoranda of Understanding will be signed.
- Initiative Kick-off (03/08/2004 – 03/12/2004: 5 days: Week CY04 11)—the time that starts the initiative operation. This meeting will be held in the Washington DC area and will last approximately one week. During the Kick-off, the participants will 1) develop generic interfaces and protocols to be used as the starting place for software components, 2) finalize the initial System Architecture, and 3) refine the Demonstration Concept. This phase is covered specifically during the period of performance of this RFQ.
- Interface Development, Test, and Refinement (03/08/2004 – 07/30/2004: 105 days: Week CY04 11 – at kickoff - CY04 31)—the time of developing interface components into an initial testbed implementation and to integrate selected components of that capability to form prototypes that adhere to the OWS-2 concept. During this phase, the Operational, Technical, and System Architectures are expected to evolve. This phase is covered specifically during the period of performance of this RFQ.
- Demonstration Development – Throughout project (03/08/2004 – 08/06/2004: 110 days: Week CY04 11 – at kickoff – CY04 32)—the time when the OWS products developed during the initiative will be demonstrated to OGC, sponsors, and the sponsor's communities. This phase is covered specifically by this RFQ.
- OGC Network Integration/Solution Transfer (08/09/2004 – 08/13/2004: 5 days: Week CY04 33)—The OGC Network Integration occurs when the interfaces and demonstrations developed during the Interface Development and Demonstration Development are integrated into the OpenGIS.net test bed infrastructure, or when they are transferred to Sponsor environments.

The timing of the above phases is shown in Figure 3. Note that the weeks are numbered according to the Table 2 provided at the end of Annex C. The details of each phase are fully explained in this Annex.

¹ The testbed architecture consists of the operational, technical, and system architectures as described in Annex B.

2 OWS-2 Lifecycle Phases

2.1 Proposal Development

The RFQ and Responses—The primary activity during this period is the development of proposals. Proposals should reflect an understanding of the following:

- Proposing organizations must be members of OGC, or must submit an application for membership in advance of their proposal, to have their proposals considered.
- The OpenGIS Abstract Specification, as well as OpenGIS Interface Specifications, may cover some of the technology areas under consideration in the RFQ. The relationship between the content of the proposal and the relevant OpenGIS specifications should be noted by the Proposing organizations.
- Proposals with some basis in emerging International Standards being developed by ISO TC/211 should reference the relevant standard and sections thereof.
- Proposing organizations should plan on performing all development work at their own facilities. These facilities should include a server (where applicable) that is accessible to other tested participants via the Internet. TIEs will be carried out among the participants based on these Internet-accessible servers.
- Proposing organizations should plan on migrating their components to a Sponsor-provided facility.
- The desired outcome of the OWS-2 Initiative includes additional OpenGIS specifications as well as implementations that become part of the OGC Network infrastructure. Proposals covering technologies that require licensing should indicate how these technologies can be made available as a (permanent) part of OGC Network. Proposals covering technologies requiring specific hardware or software environments should indicate what these are.
- Proposals need not address the full spectrum of the OWS-2 architecture as outlined in Annex B. Proposals can focus on specific portions of that architecture.
- Proposing organizations should be prepared to build interoperable components and thus should be prepared to cooperate with all selected development teams, regardless of whether individual proposals covered the full OWS-2 architecture or portions of it.
- Software components developed in the OWS-2 initiative should either be based upon currently shipping products, or should be prototypes or pre-release versions of products that the responding organization intends to sell or otherwise distribute for ultimate deployment.
- Responding organizations must participate in the full course of interface and component development, test and integration experiments, and other essential activities throughout the initiative in order to have access to and participate in demonstration exercises.
- Proposal selection and funding may be on the basis of portions of the proposal deemed most likely to lead to a successful OWS-2 implementation.
- Proposal selection and funding for pure specification development will be much more limited than funding for the development of software components, and will be subject to very stringent review. All other submittals are expected to propose component development.
- Proposing organizations should feel free to provide alternatives to the OWS-2 architecture. However, it should be noted that proposals will be selected on the basis of how successfully the various components of all the selected responses interoperate. Radically different architectures

that would require intensive rework on the part of a majority of the participants would have to be supported by very persuasive arguments!

- Proposing organizations should be familiar with the existing OGC Network infrastructure. OGC Network provides a set of services, datasets, components, toolkits, and reference materials that can and should be used to leverage OWS-2.
- Proposing organizations shall use the supplied template and forms to complete to their proposals.

The primary activity during this period is the development of proposals by potential participants. During the RFQ response period the OGC Interoperability Program (IP), staff (known as the IP Team: see Figure 2) will begin working with the Sponsor organizations to develop a draft specification.

During this period, there will be a bidder's conference, so that respondents can ask questions, request clarifications, and advise the IP Team of issues. The conference will be virtual, and will be conducted in three incrementally scheduled sessions to accommodate three different timezones (Europe, US, Australia) the week that the RFQ is released.

Those organizations or companies choosing to respond are expected to have representatives available to attend teleconferences on the following dates:

1. January 12 – February 6, 2004 - Proposal Reviews and Decision TEMs
2. February 9 – March 5, 2004 - Negotiations

Please note that these teleconferences will be used to clarify questions about submitted proposals.

Furthermore, respondents should plan to send at least one engineer to the Kickoff meeting the week of March 8.

2.1.1 Management Approach and Communications Plan

The OGC IP Team will apply its standard management approach, and initiate its communication plan during the period between the release of the RFQ and the submission of the responses. These activities will provide guidance to the OGC IP Team and participants for the conduct of OWS-2.

The management approach for OWS-2, as for other OGC IP initiatives, is outlined in the Interoperability Program Standards Operating Policy, Processes and Procedures (IPSOP³). This document details the following roles and responsibilities of individuals providing management support to OGC initiatives a³:

1. Sponsor Team—representatives from the organizations that have provided sponsorship for the OWS initiative.
2. OGC Initiative Manager—the OGC staff person responsible for the overall management of the OWS initiative.
3. Operations—the individual responsible for the day-to-day operation of the OWS initiative.
4. Architecture—the individuals responsible for the overall initiative architecture during the course of the OWS initiative.
5. Marketing—the individual responsible for the marketing aspects of the OWS initiative.
6. Interface Team—a team of individuals representing all of the participants that are engaged in component development and representing sponsor organizations. The primary task of this team is to develop component interface and protocol definitions, implement components, revise interface and protocol definitions, and evolve the Initiative Architecture.
7. Operation Team—a team of individuals representing all of the participant and sponsoring organizations that are engaged in demonstration, testing, or data provision. The primary task of this team is to prepare scenarios for demonstrations, design tests that exercise the components, perform data development in support of these scenarios, build demonstrations and tests, and evolve the Demonstration Concept.

8. OGC IP Team—a group composed of the OGC Initiative Manager, Architecture, Operations, and Marketing.

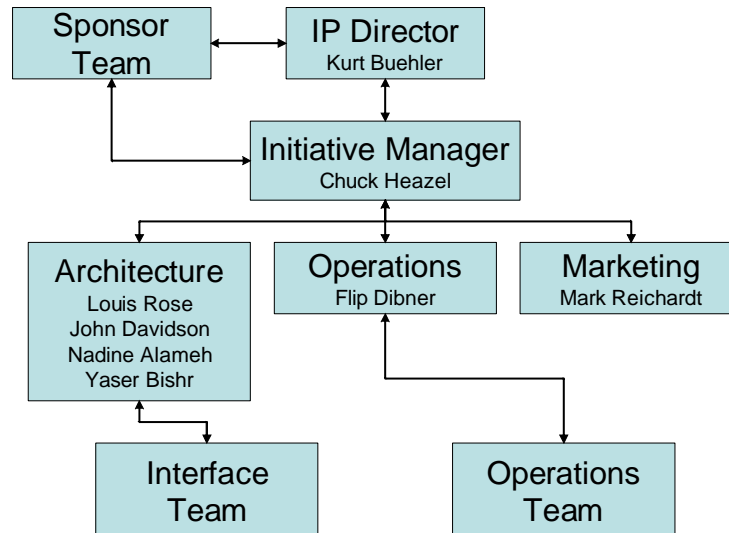


Figure 1: OGC Web Services Initiative Organization Chart

The Communications Plan, included in this RFQ as Annex D, details resources and procedures for reporting and exchanging information with participants, relevant SIGs and WGs, TC, PC, and sponsors. This plan includes the development of a Web page with appropriate documents and regular updates to OWS-2 information. The OGC IP Team will provide a list server for participants to exchange project-relevant e-mail. A teleconferencing plan will be developed to further support communications among participants.

2.1.2 Letter of Intent and Contract Execution

Respondents to this RFQ must include a signed letter of intent (LOI) with their submittal. The LOI must state that if they are selected for inclusion in the OWS-2 Initiative, and they elect to participate, then they will sign a Statement of Work (SOW) or a Statement of Participation (SOP) by the end of the Negotiation Period. These contracts, also to be signed by OGC, will contain common vision and goal statements, will be an agreement to work toward these goals, and will define the roles and responsibilities of the participants. Respondents who do not submit a signed SOW or SOP by the end of the Negotiation Period will not have access to the testbed.

2.2 Initiative Design, Response Analysis, Selection and Negotiations

Figure 2 depicts the processes involved in the Initiative Design phase. Each of these processes, their inputs and outputs, and other aspects are detailed in this section.

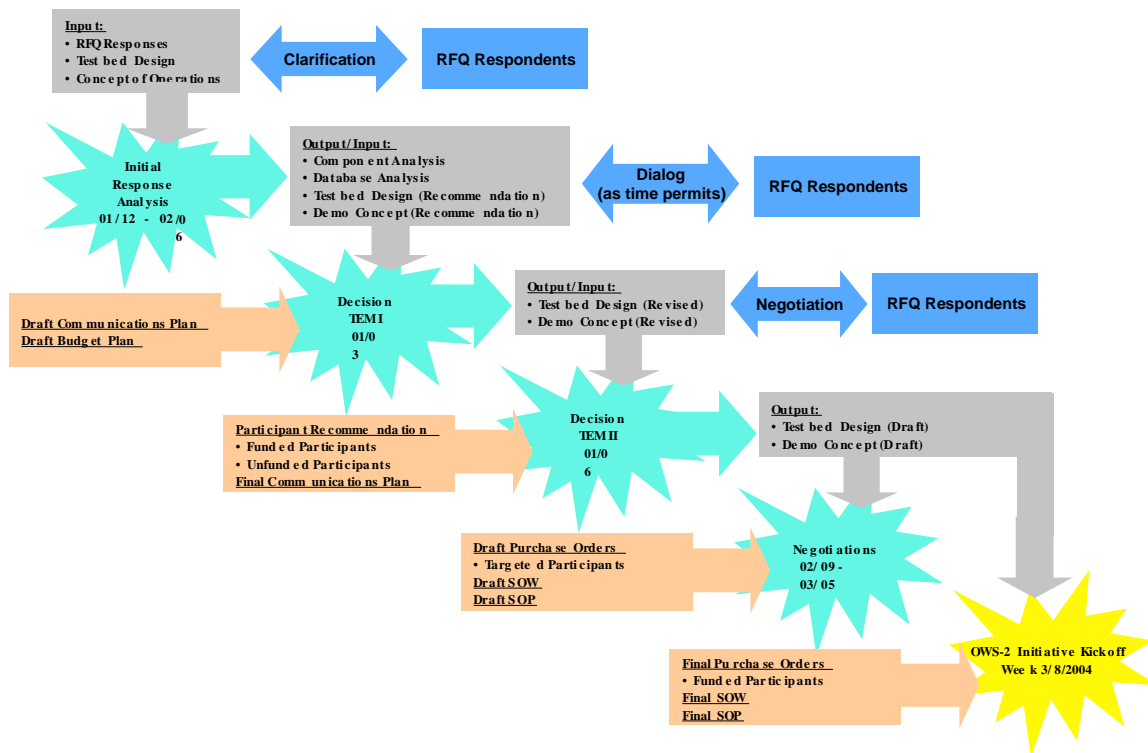


Figure 2: Processes Leading up to the OWS-2 Initiative Kickoff Meeting

The OGC IP Team and Sponsors will review the RFQ responses beginning immediately after the deadline for submission on January 9, 2004. During the analysis process (January 12 – February 6) the OGC IP Team may need to contact respondents for clarification; thus respondents should prepare for this eventuality. Time permitting, OGC may also dialog with RFQ respondents about details of the recommended Initiative Design and Demonstration Concept.

2.2.1 Component and Requirement Analysis

The review team will accomplish three tasks:

1. Analyze the components proposed in the RFQ responses in the context of the OWS WBS found in Annex A.
2. Compare the proposed efforts with the requirements of the initiative and determine viability.
3. Assess the feasibility of the RFQ responses against the use cases.
4. Analyze proposed specification development
5. Analyze proposed testing methodologies, including but not limited to performance testing methodologies.

2.2.2 Initiative (System) Architecture Recommendation

The proposal review team will then draft a straw system architecture, which will include the set of proposed components for development within the initiative, and relate them to the hardware and software

available. Any candidate interface and protocol specifications received during the RFQ process will be included with the draft initiative architecture as annexes.

2.2.3 Demonstration Concept Recommendation

The team will incorporate the preliminary analysis of responses into a demonstration concept recommendation. This document will discuss the ability of proposed software components to work together in a demonstration context, and will identify gaps.

In the case of proposals for demonstration and database development tasks, proposed databases that are applicable to the testbed, and the details of their contents, will be listed. The review team will evaluate the ability of the proposed databases to support a demonstration in the context of anticipated scenarios, and will develop an estimate of the effort required to develop metadata for the proposed data sets. Respondents are encouraged to provide as much information in this regard as they have available.

The team will also construct a listing of database compatibility and related issues (accuracy, scale, coordinate system, data type), to inform the scenario development process, and will develop early recommendations regarding the applicability of the databases with respect to demonstration scenario support.

Respondents considering database development should be aware that three broadly defined areas of interest, two regional and one of continental scale, are currently planned as the focus for integration and demonstration exercises in OWS-2. They include:

- The Nation's Capital Region of the United States of America: Washington D.C. and environs
- The nine-county region of the San Francisco Bay Area, California
- The coterminous forty-eight states of the USA.

The demonstration concept document will include references to existing and emerging resources on OGC Network, including the resources under development in this testbed. The OWS-2 initiative will culminate in a sponsor demonstration, tentatively scheduled for early August, 2004. The current intent is for this demonstration to be at least partially virtual. While some sponsors will be present for the demonstration, it is expected that others will be operating the demonstration at mirror sites, using the same servers and clients as are being used at the central site.

2.2.4 Decision TEM I

At Decision Technical Evaluation Meeting I, OGC IP Team will present to the sponsors (with the Component and Database Analyses as background):

- The Initiative (System) Architecture Recommendation, and
- The Demonstration Concept Recommendation.

This presentation will be made in the context of first drafts of the plans described above:

- Communications Plan
- Tiered sponsor requirements

The primary decisions to be made by the sponsors at this TEM are:

- Is the recommended Initiative Architecture workable? If not, how to make it workable.
- Which RFQ responses, or subset thereof, should be provided cost-sharing funds and at what level given all inputs?
- Is the Demonstration Concept workable? If not, how to make it workable.

- Are the management approach and the Communications Plan reasonable and complete?

Immediately following Decision TEM I, OWS Initiative staff will begin to evaluate sponsor recommendations to the various plans and will revise the plans and concepts accordingly. It will also make budgetary adjustments based on sponsor inputs.

2.2.5 Decision TEM II

At Decision Technical Evaluation Meeting II, the OGC IP Team will present to the sponsors:

- The Initiative (System) Architecture Revision, and
- The Demonstration Concept Revision.
- The Participant Recommendation

The primary decisions to be made by the sponsors at this TEM are:

- Is the revised Initiative Architecture workable? If not, how to make it workable.
- Is the Participant Recommendation correct and affordable?
- Is the Demonstration Concept workable? If not, how to make it workable.
- Are the management approach and Communications Plans reasonable and complete?

Immediately following Decision TEM II, the OGC IP Team will 1) finalize the Initiative Architecture and Concept of Operation (now including the Demonstration Concept), 2) begin to insert specific information into the existing purchase order template for each targeted participant organization, and 3) make the insertions of specifics for all participants into a contract template. Each targeted respondent POC should be available or make arrangements for alternates during this period February 9, 2004 – March 5, 2004). The output of Decision TEM II will be a final Initiative Architecture and Demonstration Concept. Proposing organizations that have been selected for funding will be notified after the completion of Decision TEM II.

2.2.6 Presentation of Design at OGC TC

At the meetings of the OGC Technical and Planning Committees following the Decision TEMs, the IP Team will present the OWS-2 design to the participants, the TC, and the PC. This presentation will include:

1. The "final" Testbed Architecture
2. The "final" Concept of Operations
3. The selected participants.

2.3 Initiative Kickoff

During the week of March 8, 2004, OWS-2 will be launched officially with a Kickoff meeting in the Washington DC area (exact location to be announced). Prior to the Kickoff meeting all the participants will sign a Contract, as indicated above, that includes a description of the aspect of OWS-2 in which they will participate.

The Kickoff meeting will address two development activities in the OWS process: 1) component interface and protocol definitions and 2) demonstration scenario development. The scenarios used in OWS-2 will be derived from those presented in the RFT, the RFQ, and other candidates provided by OGC and the sponsors.

The two development activities will interact and affect each other, and the interaction will be iterative. During the Kickoff, both activities will be jump-started using the preliminary specification development performed by the IP Team and the Sponsors, and other assets that participants bring to OWS-2. Each of these activities should use tools such as clumping analysis, interface identification, state of the art

assessments (or resources at hand), and shortfall analysis to build consensus regarding the nature of the OWS-2 work. Participants will be asked to volunteer to address any perceived shortfalls. The Initiative Manager or the Initiative Lead Engineer will lead daily plenaries for the exchange of information. The OGC IP Team will provide facilitators and “scribes” to help with these efforts.

An additional product of the Kickoff meeting will be a development schedule that defines specific milestones in the Interface Development and Demonstration Development activities. These milestones will include component-to-component interactions across the interfaces under development, and component insertion into demonstration scenarios. Among the milestones will be Technology Integration Experiments. The TIEs will be conducted on a planned basis during the Specification Development activities (See Annex A WBS task items 6 and 8.3). Participants providing software components based upon draft specifications developed during the course of the OWS Initiative shall participate in relevant TIEs (See WBS task item 8.3 and related sub-tasks for details).

At the Kickoff meeting, there will be technical breakouts to begin developing component interface definitions for the OWS. The responding organizations and companies are expected to have systems and/or software engineers in attendance to assist in the initial assessment and interaction of the interfaces. This may include UML modeling of the interfaces, using a standard tool such as Visio or Rational Rose. Use cases will be made available to the demonstration development team, and the interface definition team should incorporate in their own analysis use cases provided by the demonstration development team. As a way of validating the interfaces, they will be “exercised” against the demonstration scenarios during a plenary session.

Simultaneously, there will be technical breakouts at the Kickoff meeting to begin demonstration scenario design and creation. This activity will involve the development of use cases to explore the implications of the scenarios to OWS-2. These use cases should be made available to the interface development team, and demonstration developers should incorporate in their own analysis the use cases provided by the interface development team. The participants in this activity should understand that various databases will be proposed as solutions to the RFQ. This group will apply the use cases to the development of storyboards based on the proposed databases. To facilitate this activity a presentation will be created which maps, physically and systematically, the component databases being used in the scenario. The scenario design must account for the requirements and dependencies of the overall OWS-2 system, including any Client designs, any Server designs, and service interfaces.

There will be technical plenary sessions conducted during the course of the Kickoff meeting. These are intended to allow the participants working on interface and protocol definitions to interact with those participants working on scenario vignettes and demonstration development. These plenaries will use UML use case and UML sequence diagrams to assess the interaction of the scenario and demonstration development and the interface definition effort.

2.4 OWS-2 Interface and Demonstration Development

This section defines an initial concept for the conduct of development activities in OWS-2. Figure 3 lays out a notional schedule for the initiative. The actual schedule and further information will be provided at the Initiative Kickoff.

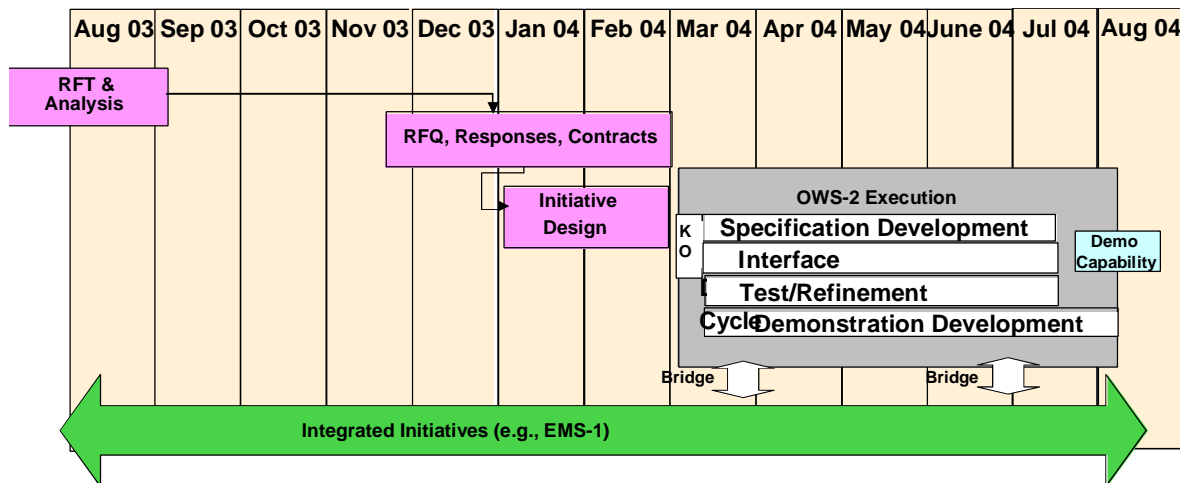


Figure 3: OWS-2 Notional Schedule

OWS-2 consists of activities to develop elements of Common Architecture (CA), Image Handling (IH), Decision Support (DS), information interoperability, and Open Location Services (OLS). The initiative will also conduct Technical Baseline Maturation activities.

Common Architecture includes those interfaces and protocols that can be shared by multiple OGC services. The CA effort in OWS-2 will focus on the incorporation of emerging web service standards such as SOAP and WSDL, in a consistent fashion, across existing OGC standard interfaces. Image Handling includes refinements to emerging specifications pertaining to imagery management and distribution, as well as new specifications that extend the suite of OGC image handling services and also on service chaining technologies. In OWS-2, it is anticipated that such tools will be built substantially upon IH components, and expand upon past explorations of multiple service exploitation within integrated, highly capable client applications. Information interoperability refers to common schematic views of data sets within an information domain, and in OWS-2, will be substantially focused on GML and schemas based upon GML. Open Location Services will build upon prior OLS work. The Technical Baseline Maturation theme will develop compliance tests and improve existing services.

2.4.1 Interface Development

This section defines the phase called Interface Development (ID) Phase. The schedule and further information will be developed and provided at the Testbed Kickoff. This phase corresponds with WBS Tasks 6, 7, and 8 and their related sub-tasks.

During the ID phase, the Technical Architecture (System Architecture) will be refined while groups of participants work on development of specific components. This work will be shaped by the Scenario and Data Development tasks. By this time, demonstration details will have been sufficiently well defined to isolate key actions and behaviors of “actors” in the scenarios, which should in turn provide clear, measurable, short-term goals for the technical development teams to pursue. The technical implementation teams will also provide feedback to the demonstration scenario and data preparation teams. This mutual interaction will allow problems and successes to surface early, and will guide early TIEs, without waiting until Demonstration Integration and Testing time (See WBS task item 8.3 and related sub-tasks). Demonstration Integration and Testing will then become a matter of integrating already tested interfaces into a larger, cohesive unit capable of supporting the end-to-end nature of the scenarios.

Technology Integration Experiments (TIEs) will be conducted on a regular basis, in an iterative manner, as outlined by the initiative architects in the development schedule. During identified TIE phases of the initiative, participants developing components within the Testbed Architecture shall test interfaces for component accessibility, behavior, and most important, interoperability. The IP Team will develop a TIE matrix defining the nature of TIEs that shall be conducted and their scheduled occurrence within the initiative. Participants will report the outcome of each TIE following the TIE reporting template provided by IP Team.

TIEs will be conducted within the development cycle of the Initiative. TIEs will follow initial interface design, interface construction, component creation, and integration of the interface with application logic. During each TIE iteration, server components under test shall have data loaded to allow client software to exercise the current functionality. Participants working behind firewalls shall take any necessary steps to allow the test to be conducted through the firewall or outside of the firewall. All participants are expected to provide appropriate documentation to allow the successful conduct of these experiments. All participants are expected to upload a reference to their components to the Initiative web site, for each TIE iteration. Participants shall report the outcome of TIEs to the OWS list and the Initiative Architecture Team.

To the extent possible in an initiative of this duration, interface definition, software development, and test will follow the spiral development paradigm. In particular, issues exposed in each round of TIEs will drive requirements for the following round of specification (interface definition) refinement, coding, and test. The development cycle may also proceed incrementally, with primary attention on a limited set of operations at each turn of the cycle. This approach may require more closely coordinated interactions among participants than in previous OGC initiatives.

Annex B, the Technical Architecture, describes an initial set of services and interface mechanisms. It also contains a notional System Architecture. Individual items in that notional System Architecture are to be refined during the Kickoff meeting and will be further refined during the ID phase. Consistent with the spiral development paradigm, it is intended that there be periods of development followed by periods of synchronization between the various component developers. This will allow for issues to be resolved and documented before divergence begins to occur between individual component developers (i.e., two server developers) and between dependent component developers (i.e., server and client developers).

2.4.2 Demonstrations

This section builds upon the initiative characteristics developed during the Kickoff demonstration scenario design and creation discussions. To be successful, participants must execute four activities—designing a demonstration, building a demonstration, testing the demonstration, and packaging the demonstration on portable media.

Capitalizing on the Use Case and UML work performed at the Kickoff, participants need to expand these initiatives in four design areas—completing demonstration storyboards, finalizing specification considerations, identifying data providers, and incorporating support databases.

- Review and Finalize Storyboards—participants identify the relationships between the data, the sponsor scenarios, and the components.
- Finalize Interface Definition Considerations—given the experimental nature of work during a testbed, some inconsistencies may remain between specifications and interfaces, and between different implementations. Participants must expose these conflicts and develop appropriate solutions.
- Survey Supporting Database Providers—access to the appropriate data is essential to exercising the initiative architecture and capturing a representative demonstration. Participants clearly must assure that the appropriate data exist and are available.
 - Determine Nature and Extent of Holdings—As mentioned previously, OGC Implementation Specification conformant data sources are preferred. However, the most important issues are the quality, availability, and interoperability of the datasets.

- **Manage Supporting Data**—On-line supporting data require that the participants identify the data stores, availability, throughput limitations, and ingestion process. Successful execution of data pre-staging will require the participants to have a data plan, so valuable time is not lost due to poor planning and preparation.
- **Incorporate Supporting Databases**—Based on the data plan, participants must identify how data will migrate into initiative database components to be exercised for the demonstration.
- **Data relevant to areas of interest**—Data relevant to the demonstration scenarios will pertain to one of the three broadly-defined areas of interest: the U.S. Nation's Capital Region, the San Francisco Bay Area, or extensive regions on the scale of the entire coterminous United States.

The design activities will be used by the participants to build and implement prototypes that clearly demonstrate the capabilities of the components by exercising the sponsors' scenarios. As a core requirement of the testbed effort, the sponsors have requested that all demonstrations be made available via the Internet, either for presentation purposes, or for use in their internal labs (See WBS task items 9, 10, and 11.2 and their related sub-tasks). The component elements of the demonstrations include but are not limited to the following:

1. All Executables
2. All Necessary Links and Datasets
3. Supporting Documentation, Installation Instructions, Scripts, etc.

Participation in demonstration exercises is predicated upon full engagement with development, testing, and planning activities throughout the OWS-2 initiative.

2.5 OGC Network Integration and Solution Transfer

The OGC Network Integration will be complete when the interfaces and demonstrations developed during the Interface Development and Demonstration Development have been integrated into the OGC Network testbed infrastructure. This activity will result in configuration-controlled components that are considered stable enough to use in ongoing demonstrations, pilots, and further test bed activity.

Solution Transfer entails the installation of software components developed during the testbed at a Sponsor facility. This task will be complete when sufficient documentation or instruction has been provided, and adequate licensing procedures completed, to allow the Sponsor organizations to exercise and evaluate these products or product prototypes.

3 Progress Reporting

The OGC IP Team will provide regular (monthly) progress reports pertaining to progress of the OWS to the sponsors (See WBS task item 1.3.1). The OGC IP Team and the sponsors intend to provide regular status reports about the program to the OGC Technical Committee, and the OGC Management committee. Currently the OWS-2 lead up activities and development phase will coincide with three OGC Technical Committee and Planning Committee meetings. At that time the participants will present interface designs to the TC and MC. Demonstration scenarios and the architecture to support those demonstrations will be included in the presentation.

4 Integrated Initiatives

Other ongoing IP activities may present opportunities to support OWS-2 and be coordinated with the activities within OWS-2. The most prominent possibility at this time is the EMS-1 initiative (<http://www.opengis.org/initatives/?iid=87>), which might offer services and other resources that could benefit OWS-2 demonstration scenarios or serve as test targets for clients that support published (or, at least, deployed) interface definitions. Any such resources and related activities may be integrated with

those of OWS-2 in order to take advantage of economies of scale, and possibly to explore the deployment of innovations coming from OWS-2.

5 OWS Resource Plan

The OWS Resource Plan refines Sponsor requirements defined in Annex A into two Tiers. This RFQ represents the current state of sponsor requirements and funding support for OWS activities. This Tier structure is subject to change as Sponsor funding becomes available.

Tier 1 Requirements are those that are identified by the Sponsors as important and have associated funding at levels adequate to provide cost-share funding to Participants. OWS 2 funding will address Tier 1 requirements. Annexes A and B will define these requirements in detail. Only proposed activities that address Tier 1 requirements will be considered for cost sharing funds.

Tier 2 Requirements are those that are identified by the Sponsors as important and may have associated funding at levels adequate to provide cost-share funding to Participants at some near-future time. Sponsors in the process of defining resources have reviewed these requirements and are anticipated to bring funding online when their fiscal cycle permits.

The Common Architecture acknowledges a required technology for OWS across the requirements tiers. Elements of the Common Architecture are understood to be those that can be redundantly used by more than one OGC Web Service. The Sponsors and the Architecture Team have reviewed the suite of requirements to determine which services from all Tiers fall into this category. The Sponsors have agreed to joint funding of this cross cutting suite of services.

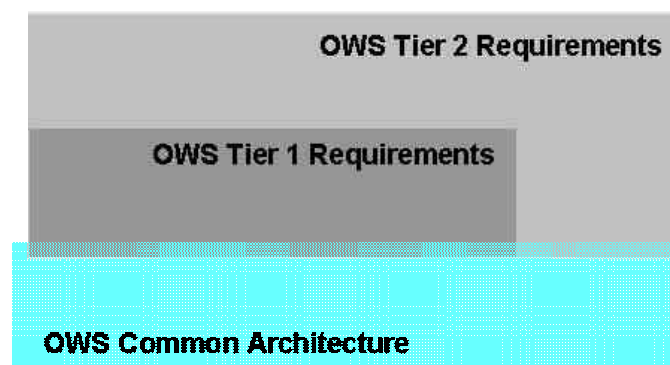


Figure 4: Tiers of OWS Requirements

6 OWS-2 RFQ Scope

The purpose of this Request For Quotation is to solicit your proposal in response to a refined set of requirements for the OpenGIS Consortium (OGC) OGC Web Services Initiative Phase 2 (OWS-2). Using the attached template and forms, please submit your technical proposal, your cost sharing request, and your

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in-kind contribution declaration. Please limit your response to only those elements defined as and associated with OWS-2.

7 Assignment of Week Numbers

The following calendar shows the assignment of Week Numbers for purposes of OWS-2 activity reporting. Yellow highlighting indicates key milestone dates and red text indicates OGC TC Weeks.

Table 1-OWS 2 Calendar

September								October							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat
CY03 Week 36		1	2	3	4	5	6	CY03 Week 40				1	2	3	4
CY03 Week 37	7	8	9	10	11	12	13	CY03 Week 41	5	6	7	8	9	10	11
CY03 Week 38	14	15	16	17	18	19	20	CY03 Week 42	12	13	14	15	16	17	18
CY03 Week 39	21	22	23	24	25	26	27	CY03 Week 43	19	20	21	22	22	24	25
CY03 Week 40	28	29	30					CY03 Week 44	26	27	28	29	30	31	

November								December							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat
CY03 Week 44							1	CY03 Week 49		1	2	3	4	5	6
CY03 Week 45	2	3	4	5	6	7	8	CY03 Week 50	7	8	9	10	11	12	13
CY03 Week 46	9	10	11	12	13	14	15	CY03 Week 51	14	15	16	17	18	19	20
CY03 Week 47	16	17	18	19	20	21	22	CY03 Week 52	21	23	23	24	25	26	27
CY03 Week 48	23	24	25	26	27	28	29	CY04 Week 1	28	29	30	31			
CY03 Week 49	30							CY04 Week 2							

January								February							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat
CY04 Week 1					1	2	3	CY04 Week 6	1	2	3	4	5	6	7
CY04 Week 2	4	5	6	7	8	9	10	CY04 Week 7	8	9	10	11	12	13	14
CY04 Week 3	11	12	13	14	15	16	17	CY04 Week 8	15	16	17	18	19	20	21
CY04 Week 4	18	19	20	21	22	23	24	CY04 Week 9	22	23	24	25	26	27	28
CY04 Week 5	25	26	27	28	29	30	31	CY04 Week 10	29						

March								April							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat

Due Date: January 9, 2004

Annex C: OWS-2 Concept of Operations

CY04 Week 10		1	2	3	4	5	6	CY04 Week 14					1	2	3
CY04 Week 11	7	8	9	10	11	12	13	CY04 Week 15	4	5	6	7	8	9	10
CY04 Week 12	14	15	16	17	18	19	20	CY04 Week 16	11	12	13	14	15	16	17
CY04 Week 13	21	22	23	24	25	26	27	CY04 Week 17	18	19	20	21	22	23	24
CY04 Week 14	28	29	30	31				CY04 Week 18	25	26	27	28	29	30	

May								June							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat
CY04 Week 18							1	CY04 Week 23			1	2	3	4	5
CY04 Week 19	2	3	4	5	6	7	8	CY04 Week 24	6	7	8	9	10	11	12
CY04 Week 20	9	10	11	12	13	14	15	CY04 Week 25	13	14	15	16	17	18	19
CY04 Week 21	16	17	18	19	20	21	22	CY04 Week 26	20	21	22	23	24	25	26
CY04 Week 22	23	24	25	26	27	28	29	CY04 Week 27	27	28	29	30			
CY04 Week 23	30	31						CY04 Week 28							

July								August							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat
CY04 Week 27					1	2	3	CY04 Week 32	1	2	3	4	5	6	7
CY04 Week 28	4	5	6	7	8	9	10	CY04 Week 33	8	9	10	11	12	13	14
CY04 Week 29	11	12	13	14	15	16	17	CY04 Week 34	15	16	17	18	19	20	21
CY04 Week 30	18	19	20	21	22	23	24	CY04 Week 35	22	23	24	25	26	27	28
CY04 Week 31	25	26	27	28	29	30	31	CY04 Week 36	29	30	31				