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Request For Quotation And Call For Participation In the NSG PROFILES PLUGWEEK PILOT (NPP) Annex A—NPW Work Breakdown Structure

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Annex A: NPP OGC IP Work Breakdown Structure

1 Introduction

This document describes the NPP OGC IP Work Breakdown Structure for this Initiative.

2 Interoperability Initiative Process Framework

This section describes a flexible framework of standard, repeatable processes, which can be combined and adapted as necessary to address the requirements of each Interoperability Initiative. These tasks are executed with a Virtual Team Infrastructure. This Process Framework forms the basis for the OGC Web Services Initiative Work Breakdown Structure.

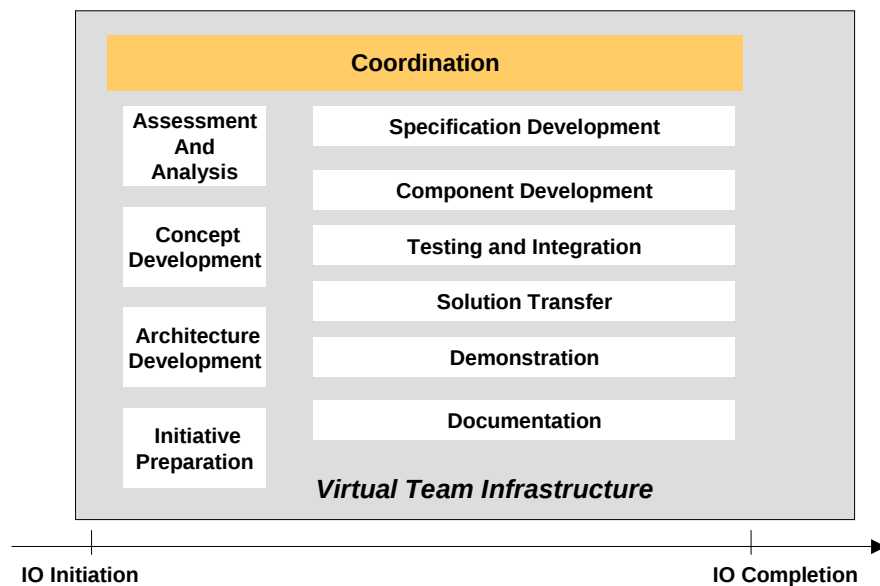


Figure 3: Interoperability Initiative Process Framework.

2.1 Coordination

Enables overall Initiative coordination between OGC Staff, OGC IP Team, Sponsors, Participants, and other OGC Members as required. Initiative Coordination includes the following Subtasks:

- **Collaborative Environment** - OGC IP Team provides synchronous and asynchronous collaboration environments for cross organizational, globally distributed, virtual teams working interdependently to execute Initiative Orders. Activities under this subtask include reading email and engaging in collaborative discussions including teleconferences.
- **Management** - Services ensuring Initiative Order participants are staying within designated budgets, that the work is progressing according to the agreed schedule, and that the tasks identified in the Statement of Work are executed. Including status reporting.

- **Communication** – Includes communicating ongoing and planned Initiative and Work Item Status to OGC and other organizations such as ISO. This task does not include IP Business Development functions.

2.2 Specification Development

This task defines and develops models, schemas, encodings, and interfaces necessary to realize required Architectures. Includes specification Pre-design and Design tasks. This task may include activities to coordinate ongoing Initiatives with Specification Program activities.

2.3 Component Development

This task develops prototype interoperable commercial software components based on NSG Profiles to realize the required Architecture.

2.4 Testing and Integration

This task integrates, documents and tests functioning interoperable components and infrastructures that execute operational elements, assigned tasks, and information flows required to assess the interoperability of NPP components to the NSG Profiles. Includes Technology Integration Experiments (TIEs).

2.5 Plugweek Harness

This task prepares servers and clients so that can be deployed at required sites. Servers can be deployed at factory locations; clients must be deployed at the Plugweek site identified in the RFP document.

2.6 Demonstration – Plugweek Participation

This task defines, develops and deploys functioning interoperable components and infrastructures that execute operational elements, assigned tasks, and information flows required to fulfill a set of user requirements.

2.7 Documentation

This Task ensures development and maintenance of the pre-specification, pre-conformant interoperable OpenGIS technologies (including Engineering Reports). This task may include coordination with OGC Specification Program activities including the Documentation Team.

3 NSG Plugweek OGC IP Work Breakdown Structure (WBS)

The following Work Breakdown Structure (WBS) is derived from the OGC Interoperability Initiative Process Framework. This WBS should be interpreted in the following manner:

- Items that are grayed out are either IP Team tasks, have already been completed, or are not required for the NSG Plug Week OGC IP Initiative.
- Bold text is a task grouping or subtask grouping.
- Plain text indicates tasks against which proposing organizations should respond.
- Italic text indicates the task explanation (These task explanations are valid only for NSG Plugweek OGC IP; subsequent initiatives will issue appropriate task explanations).

A proposing organization does not have to respond to all tasks below. However bold italic text in the task explanation indicates which tasks are mandatory or conditional. Conditional tasks are those that are

mandatory if a proposing organization takes on certain non-mandatory tasks. All responses shall use this WBS to structure their responses. Evaluations of responses will be based on whether a proposal addresses the WBS task items. So a company anticipating working on a particular task that fails to indicate their intent by using the WBS structure below will not be considered for the desired task. The NSG Plug Week OGC IP project plan and schedule will use this WBS as a template as well.

3.1 Coordination

3.1.1 Collaborative Environment

3.1.1.1 Routine and ad hoc telecons as assigned

*Task Explanation-The proposing organization shall provide a technical representative and an alternate to participate in regularly scheduled telecons. If a participant organization has a representative that is requested or volunteers to participate in an ad hoc telecon, then that representative or a reasonable alternative shall join the ad hoc telecon if at all possible. **This item is mandatory for all proposing organizations.***

3.1.1.2 E-mail review and comment

*Task Explanation-The proposing organization shall provide technical representatives to participate in specification and prototypical component development discussions via the NSG Plugweek OGC IP mail list. **This item is mandatory for all proposing organizations.***

3.1.1.3 Action Item status reporting

*Task Explanation-Proposing organizations' representatives shall report the status of their work in response to any action item accepted by them in whole or part. Action Items will be assigned to relevant work groups with an identified work group leader. Action item status shall be reported to the relevant work group leader. **This item is mandatory for all proposing organizations.***

3.1.2 Initiative Plan Development

3.1.2.1 Project Plan Development

3.1.2.2 Project Schedule Development

3.1.2.3 WBS Development

3.1.2.4 Concept of Operations Development

3.1.3 Management

3.1.3.1 Status Reporting

Task Explanation-Proposing organizations' business representatives shall report the status of their work as assigned to and accepted by them in their SOW following the structure of this WBS. Status reports will reflect the WBS item number and name, the

"health" of the effort with green indicating optimal; yellow indicating issues have arisen that appear resolvable; and red indicating that issues have arisen that require immediate resolution or the effort will not succeed, and finally the report will describe the work done to fulfill the WBS item. Reports will be submitted to the NSG Plugweek OGC IP Initiative Manager and Operations Manager on a Monthly basis. The first status report will be due 30 days after award of contract with all subsequent reports being due on the third of the month or the first Monday thereafter by COB. **This item is mandatory for all participating organizations. Additionally all participating organizations shall submit an initial status report indicating personnel assigned to support the NSG Plugweek OGC IP initiative. This initial status report will use a form to be supplied to proposing organizations that have been invited to participate in the NSG Plugweek OGC IP initiative. These initial status reports shall be submitted to NSG Plugweek OGC IP Operations lead no later than the first day of the NSG Plugweek OGC IP kickoff in soft copy format only.**

3.1.3.2 Initiative Accounting

*Task Explanation-*The business representatives of those organizations selected for cost offset funding shall submit an invoice to Jeffrey Burnett of OGC. The invoice shall include the OGC Accounting Job Code. This Job Code will be provided to contracted participants by OGC via the contract. The invoice shall be submitted monthly for work completed during the prior month. Deliverables shall be itemized. The invoice shall include the budgetary not to exceed figure. **This item is mandatory for all participating organizations that receive funding.**

3.1.3.3 OGC Internal IP Status Briefings

3.1.3.4 OGC External IP Status Briefings

3.2 Assessments and Analysis

3.2.1 Organizational Capability Review

3.2.2 Organizational OGC Requirements Review

3.3 Concept Development

3.3.1 Sponsor Feasibility Study Review

3.3.2 RFT Development

3.3.3 RFT Response Analysis

3.3.4 RFT Response Review

3.4 Architecture Development

3.4.1 Operational Architecture Development

3.4.2 System Architecture Development

3.4.3 Technical Architecture Development

3.5 Initiative Preparation

3.5.1 Sponsor Planning TEMs

3.5.2 RFQ Development

3.5.3 Participant Budget Development

3.5.4 Contract Development

3.5.5 SOW/SOP Development

3.6 Specification Development

*Task Explanation-Proposing organizations should respond to this task and its associated subtasks (or a subset thereof). To support this all organizations selected for participation shall send a technical representative to the NSG Plugweek OGC IP Kickoff; **this kickoff attendance is mandatory for all proposing organizations**. It is not anticipated that OGC Specification development will occur during the Plugweek, but there is a potential that modifications to the GFI Profiles and Schemas are possible.*

3.6.1 Prototypical Interoperable Software Development

Task Explanation-Proposing organizations' technical representatives shall either use or modify existing product server and / or client software to provide the interfaces necessary under NSG Plugweek OGC IP. See Annex B, Table 1: NSG Plugweek OGC IP Requirements for interfaces and encodings to be supported. Individual participants are not required to support all of the services listed in the Table..

3.6.2 Legacy server / client software enhancement

Task Explanation-Alternatively, the proposing organization may propose to adapt existing sponsor OWS implementations for NSG Plug Week.

3.6.3 Server software development

Task Explanation-Proposing organizations' technical representatives shall develop server software or modify existing product server software to provide the interfaces under the NSG Plugweek Annex B, NSG Plugweek Architecture.. The GFI data and accompanying Schema must be served. Additional data is also allowed so long as it matches the provided Schema.

3.6.3.1 OGC Network Unclassified Environment

Task Explanation- Proposing organizations will make this server software available for sponsor review and input during the course of the NSG Plugweek located on the OGC Network. Access to limited distribution (LIMDIS) data will be provided only to clients with IP addresses registered with OGC. This means that it will be necessary to use one set of IP addresses for preparation and another after the clients have been moved to the Plugweek site.

3.6.4 Client software development

Task Explanation-Proposing organizations' technical representatives shall develop/provide client software or modify existing product client software to satisfy the client use case of NSG Plugweek in Annex B, NSG Plugweek Architecture.

3.6.4.1 OGC Network Unclassified Environment

Task Explanation- Proposing organizations will make this client software available for sponsor review and input during the course of the NSG Plugweek located on the unclassified OGC Network.

3.7 Testing and Integration

3.7.1 Configuration Management

Task Explanation- An overall CM plan will be developed and maintained for the components in the NSG Plugweek. The CM plan will be developed by OGC IP Team or a participating organization.

3.7.1.1 CM Plan Development

Task Explanation-The Proposing organization shall provide a representative to contribute to the configuration management plan for interfaces and components implemented during the NSG Plugweek.

3.7.1.2 Initiative CM

The Proposing organization shall provide a representative to implement and maintain the configuration in accordance with the configuration management plan for interfaces and components deployed during the NSG Plugweek.

3.7.2 Infrastructure Setup

*Task Explanation -- The Proposing organization shall set up as many components as possible on the same hardware and operating systems as possible. **This item is mandatory for all organizations proposing to provide software and / or hardware components for NSG Plugweek .***

3.7.3 Technology Integration Experiments

3.7.4 Iterations 1-N

3.7.4.1.1 Component Interface Test

Task Explanation-The Proposing organization shall provide a technical representative to conduct formal Technology Integration Experiments that exercise server and/or client component software's ability to properly implement the interfaces, operations, encodings, and messages developed during NSG Plugweek OGC IP.

The first TIE will be for each server to complete and pass the appropriate test on the OGC CITE web page found at: <http://www.opengeospatial.org/compliance>. It is not necessary for participants to pay for compliance certification. Each organization shall provide an indication of this testing to the OGC IP Team.

The second TIE will be for each server to complete NSG Profile CITE tests found at: <http://www8.geoenterpriselab.com/teamengine/>.

*There will be multiple TIEs during the course of NSG Plugweek that will exercise various interfaces, operations, encodings, and messages developed during NSG Plugweek OGC IP. There may also be multiple iterations of a particular TIE or set thereof. **This item is mandatory for all organizations proposing to provide software components for NSG Plugweek OGC IP.***

3.7.4.1.2 Test Result Analysis

*Task Explanation-The Proposing organization shall provide a technical representative to report the outcome and relevant software reporting messages from TIEs in which the proposing organization participates. These TIE reports shall be submitted to the NSG Plugweek email list and within Monthly Status Report to be courtesy copied to the initiative architect. **This item is mandatory for all organizations proposing to provide software components for NSG Plugweek OGC IP.)***

3.7.5 System Tests

3.7.5.1 Functional Test

*Task Explanation – The Proposing organization shall demonstrate the functionality of all software delivered against the Use Cases in Annex B, NSG Plugweek Architecture. **This item is mandatory for all organizations proposing to provide software components for NSG Plugweek OGC IP.***

3.7.5.2 Interface Test

*Task Explanation – The Proposing organization shall demonstrate conformance with the appropriate OGC interfaces by using the OGC CITE Web site where the appropriate test suites are available. **This item is mandatory for all organizations proposing to provide software components for NSG Plugweek OGC IP.***

3.8 Solution Transfer

3.8.1 Software Installation OGC Network

*Task Explanation-The Proposing organization shall provide licensed copy / copies of NSG Plugweek relevant software components for installation/integration onto the NSG Plugweek Network. This must take the form of the proposing organization installing it on a machine in the NSG Plugweek Network, whether at a participant's own site or at the Plugweek site. **This item is mandatory for all organizations proposing to develop software components for NSG Plugweek OGC IP.***

3.8.2 Software Integration

3.8.3 Data Loading

*Task Explanation-The Proposing organization shall provide a technical representative to load data to any server components the proposing organization may provide. **This item is mandatory for all organizations proposing to develop server components for NSG Plugweek OGC IP.***

3.9 Demonstration

3.9.1 Use Case Development

Task Explanation-The Proposing organization shall provide a technical representative to support the development of use cases that define and explain the utility of the interfaces used during NSG Plugweek OGC IP. These use cases shall be used to provide a basis for demonstration storyboards and the demonstration itself.

3.9.2 Storyboard Development

Task Explanation-The Proposing organization shall provide a technical or business representative to develop or support the development of the demonstration storyboards that will define the structure and content of the demonstration.

3.9.3 Venue Access

3.9.3.1 OGC Network Unclassified Environment

Task Explanation- Proposing organizations shall provide their own hardware and access points to this network

3.9.4 Data Requirements Assessment

3.9.5 Data Acquisition and Distribution

3.9.6 Demonstration Preparation and Delivery

*Task Explanation-The Proposing organization shall provide a technical and/or business representative to support the development of demonstration that will exercise the functionality of the interfaces developed during NSG Plugweek OGC IP. The representative(s) will also support the Plugweek event(s) as required. **This item is mandatory for all organizations proposing to provide software components for NSG Plugweek OGC IP.***

3.9.6.1 OGC Network Unclassified Environment

Task Explanation- Proposing organizations shall participate in demonstrations on the NSG Plugweek located on the unclassified OGC Network.

3.10 Documentation

3.11 ER Development

*Task Explanation-The Proposing organization shall provide a technical representative to serve as editor of a relevant Engineering Report (ER). Not all organizations responding to this item will be required to provide an editor; alternatively however they shall support the editor by providing authors for sections of the ER and for reviews during development of the ER. **The ER is a deliverable of the work items within NSG Plugweek OGC IP.***

3.11.1 System Documentation Development

3.11.1.1 Functional Specification

3.11.1.1.1 Architectural Overview

*Task Explanation-The Proposing organization shall provide a technical representative to develop an architectural overview of their software component(s) relevant to the NSG Plugweek architecture. **This item is mandatory for all organizations proposing to develop software components for NSG Plugweek OGC IP.***

3.11.1.1.2 Use Cases

Task Explanation-The Proposing organization shall provide a technical representative to refine use cases to show the functionality of their software components in the context of

*the NSG Plugweek architecture. **This item is mandatory for all organizations proposing to provide software components for NSG Plugweek OGC IP.***

3.11.1.1.3 UML System Models

3.11.1.1.4 System Configuration

*Task Explanation-The Proposing organization shall provide a technical representative to develop a detailed document describing the combined environment of hardware and software component(s) that compose their contribution to NSG Plugweek OGC IP. **This item is mandatory for all organizations proposing to develop software components for NSG Plugweek to be installed at data provider or other host sites.***

3.11.1.2 Installation Guide

*Task Explanation-The Proposing organization shall provide a technical representative to develop an installation guide for their software component(s). **This item is mandatory for all organizations proposing to develop software components for NSG Plugweek to be installed at data provider or other host sites.***

3.11.1.3 Training Material & Users Guide

*Task Explanation-The Proposing organization shall provide a technical representative to develop a User's Guide and Training Materials pertaining to their software component(s) developed or modified for NSG Plugweek OGC IP. The documents shall be provided to sponsors and IP Team to support their ability to demonstrate the proposing organization's contributions to the NSG Plugweek initiative. **This item is mandatory for all organizations proposing to develop software components for NSG Plugweek OGC IP.***

3.11.2 Planning Study Report

3.12 Draft Conformance Test Document (DCTD) Development

Task Explanation-Proposing organizations' technical representatives shall develop a Draft Conformance Test Package pertaining to an interface developed for NSG Plugweek OGC IP. The representatives shall submit the Draft Conformance Test Package, as an ER, to the OGC Technical Committee for review. Those representatives shall present said Reports to relevant OGC TC special interest and working groups. Those representatives will work with WG members to resolve issues that the members may raise with regard to the Draft Conformance Test Package/ER and the conformance test(s) described therein. Proposing organizations should respond to this task AND its associated tasks (task 4.6 Specification Development and task 4.11 Documentation.

3.12.1 Summarize TIEs, demo results and data issues

Task Explanation-Proposing organizations' technical representatives shall include a section in the DCTD detailing progress pertaining to the implementation of the interface by including TIE results, lessons-learned from the demo, and particular data issues.)

3.12.2 Conformance Test

Task Explanation-Proposing organizations' technical representatives shall outline in the DCTD all of the necessary information to conduct a valid conformance test of the interface, including the sub items below)

3.12.2.1 Test Cases

Task Explanation-Proposing organizations' technical representatives shall outline a valid conformance test for the interface. A valid conformance test will include identification of all required and optional server requests in the interface and the acceptable results for testing servers and the syntax checks to perform for testing client requests; an explanation of an acceptable verification of the results (machine, human, etc); a list of expected/valid warnings or exceptions to interface behavior; a matrix of test dependencies and explanation of ordering tests appropriately for inherent tests and dependencies.

3.12.2.2 Data

Task Explanation-Proposing organizations' technical representatives shall identify appropriate data sets for use in conducting a conformance test for an interface.

3.12.2.3 Recommendations

Task Explanation-Proposing organizations' technical representatives shall document recommendations to resolve issues with the current state of the interface, or with the conformance tests.

3.13 Deliverables

Number	Description	Applicable To	Funding Type
3.1	Coordination	All	In Kind
3.6	Specification Development	Selected participants – not anticipated to be done.	In Kind
3.7	Testing and Integration	All	Clients – In Kind Servers – In Kind and Cost Sharing
3.8	Solution Transfer to OGC Network	All	Clients – In Kind Servers – In Kind and Cost Sharing
3.9	Plugweek Participation	All	Clients – In Kind Servers – In Kind and Cost Sharing
3.11	Engineering Report Preparation	Selected participants	In - Kind

Due Date: August 3, 2009

Annex A: NSG Profiles Plugweek Requirements & WBS
