Conformance Tests Implementation

Request for Quotations

1.   Background

Conformance tests are essential for helping to define the correct operation of an open standard and ensuring consistency between multiple vendor implementations. The OpenVX working group is working to complete the definition of the OpenVX 1.0 specification including:
- The definition of the OpenVX framework;
- The detailed specification of each OpenVX function;
- A sample implementation of the framework and each OpenVX function;
- A detailed conformance test requirement specification for each function.

The goal of this project is to procure an implementation of conformance tests for the OpenVX 1.0 specification.

2.   Requirements

The project will deliver conformance tests that exercise and confirm the operation of both the OpenVX framework and each OpenVX function.

Each function test will be written and provide an output according to the specifications and the implementation notes provided by the working group.

It is required that the conformance tests run to completion without needing manual intervention or subjective inspection of individual functions tests. The conformance tests shall produce a detailed automated report that notes the success or failure of each individual test and can be verified by the working group.

The conformance tests should be designed to run on a variety of embedded architectures, including resource-constrained devices that don't have a file system and/or do not have enough memory to load more than one test case at a time. The working group will provide a prototype for the conformance test framework.

The conformance tests should be implemented in C99, with no dependencies on 3rd party binary code, except for standard POSIX libraries. The delivery should include the build project for Linux and gcc 4.2 and higher.

It is the intent that the OpenVX sample implementation passes the conformance tests. Each issue of the sample implementation not passing the conformance tests should be analyzed during the course of the project and the summary presented to the group for analysis and resolution, which may include the working group updating the sample implementation or the contractor updating the conformance test implementation.

3.   Deliverables and Acceptance Criteria

The scope of the OpenVX Conformance Tests Implementation project will include the following deliverables:
- All source code for the complete conformance test suite;
- Implementation notes document summarizing implementation decisions made during the course of the project;
- Source code for generating ground truth data

- An analysis for each remaining sample implementation conformance test failure in the form of the bug entries.

The working group shall inspect and confirm all delivered test functionality before acceptance.

4.   Project Scoping and Schedule

The OpenVX working group estimates that the project can achieve complete feature set implementation, testing and documentation, in no more than 20 man weeks.
Below are the suggested project milestones. We will assess progress on a weekly basis, so the feature coverage timeline below is only a rough guideline to the order in which we expect to have validator and tests written.
Please provide detailed milestone dates that you can commit to delivering:
- July 1, 2014: Contractor selected and work start;
- July 20, 2014: 50% of tests implemented;
- August 15, 2014: 100% of tests implemented.

5.   Khronos NDA, Contractor and Membership Agreement

Contractors wishing to respond to this RFQ that are not Khronos members will be required to execute the standard Khronos non-disclosure agreement to gain access to confidential materials for the sole purpose of responding to this RFQ.

The selected contractor will be required to execute the standard Khronos Contactors Agreement with milestones and costs entered into Exhibit B and Contractor Disclosures entered into Exhibit C.

If the selected contractor is not a Khronos member, the contractor shall also be required to execute the standard Khronos membership agreement (with fees waived) for the duration of the project in order to gain access to confidential materials and meetings for the sole purpose completing deliverables in this RFQ

No work shall begin, and Khronos shall be liable for no costs or expenses, until the selected contractor is in receipt of an executed contractor's agreement.

It is important that contractors understand that Khronos will be assessing progress on a regular basis, and reserve the right to terminate or renegotiate the contract in the event insufficient progress is being made.

6.   RFQ Responses

The RFQ response materials will form the basis for detailed milestone and cost negotiations for the final contract with the selected vendor or vendors. Please provide the following information in the format of your choice:

• Identification of deliverables on which you wish to bid;

• Proposed schedule, highlighting any differences from the suggested milestones in Section 4;

• The hourly cost for engineering resources from your company, the minimum and maximum number of hours you can commit to this project on a weekly basis, and a description of the qualification of the engineering resource(s) which would be used;

• The total project cost to Khronos. We can accept time and material or fixed cost bids – but strongly prefer fixed cost proposals;

• A description of your familiarity (if any) with OpenVX, OpenCV, any other computer vision library, conformance tests or any test development related to computer vision;

• An indication you are willing to work under the terms of the standard Khronos Contractor Agreement and execute the Khronos membership agreement if necessary;

• Any particular issues or risk factors that you wish to highlight;

• Supporting materials, including background materials about your company, highlighting other relevant experience and expertise for this project.

RFQ responses are requested by the close of business on May 30th 2014 and should be sent to openvx-conformance@khronos.org.