



Khronos Group

Request for Proposals

Validation Layers Enhancement I

4 September 2025

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Request for Proposals: Validation Layers Enhancement I

1. Background

OpenXR™ is a runtime standard⁴ with many of its documentation, resources, tutorials, and examples geared towards runtime developers. This ecosystem is critical to ensuring robust and efficient cross-platform XR development. The [Vulkan Validation Layers](#)⁹ have set a high standard by providing accurate, comprehensive, and developer-friendly diagnostics. This RFP aims to secure resources to bring the OpenXR Validation Layers⁵ to a comparable level of maturity and usability.

2. Summary (Informative)

The section summarizes this Request for Proposals (RFP). It does not supersede any other section in the document.

Contract Type	Fixed Price
Contract Amount	Not to exceed \$10,000 US dollars
Contract Duration	Anticipate no more than 6 weeks
Proposals Due	6:00am PDT (GMT-0700) on 30 September 2025
Bids good until	31 October 2025
Bidder notification	Anticipate no later than 14 October 2025
Anticipated contract start	20 October 2025

3. Methodology

Khronos has a fixed budget for this project. The following schedule lists important dates for the RFP and contract. Events may happen before the posted date with the exception of #2 - Bid Submission Deadline.

#	Event	Date
1	RFP Publicly Released	8 September 2025
2	Bid Submission Deadline	30 September 2025 before 6AM PDT (GMT-0700)
3	Notification of Selection	14 October 2025
4	Contract Start	20 October 2025
5	Preliminary Design Review	Week of 3 November 2025
6	Final presentation	Week of 1 December 2025
7	Final (and only) invoice	10 December 2025

Payment for the work will happen after the invoice is submitted and work is approved by the OpenXR Working Group (OWG).

This RFP is being circulated to all Khronos members and the general public. Anyone with experience in OpenXR is welcome to submit a proposal for consideration. [Catch2](#)⁸ testing framework is also highly desirable.

- Contractor selection is described in [§8. Selection Process](#).
- The contracting process is described in [§9. Contracting Agreement](#).
- Any follow-on work is described in [§10. Project Continuation](#).

4. Scope

The primary objective of this project is to enhance the OpenXR Validation Layers by addressing current shortcomings and expanding functionality, thereby ensuring increased robustness and user-friendliness **comparable to levels found in the Vulkan Validation Layers**. In Phase 1, the goal is:

Develop and integrate thorough test coverage into OpenXR's CI/CD pipelines to ensure long-term reliability and correctness of existing validation layers ([core validation](#)^{6,2} and [best practice](#)⁷).

Subsequent phases will be separately funded. The selected contractor may be encouraged to bid on the future work when the information becomes available. It is anticipated that Phases II and III will be focused on

- II. Fuzzing layer, improved building & distribution
- III. Object_tracker and thread_tracker layers

Projects funds shall only be used to produce the contracted deliverables in the development and integration of the tests to create stable validation rules. It is anticipated that the bidders will include the following items with description in their proposal.

1. Implement comprehensive tests to cover the validation rules and ensure the stability of the OpenXR Validation Layers.
 - 1.1. Use OpenXR SDK Examples & CTS, Unity/Unreal/Godot's OpenXR Plugin and member's XR SDKs to identify the blind spots and include them in the test suite.
 - 1.2. Fix issues in the Validation Layers which when they are revealed by the test suite.
2. Integrate the tests to OpenXR CI/CD systems to validate the integrity of OpenXR Validation Layers on a regular basis.

A few technical aspects that the bidders may consider:

1. A brief technical design of the testing system should be submitted together with the bid.
2. It's recommended to integrate the testing system into a CTest system reusing existing CMake scripts.
3. An important metric to measure the test coverage is through the coverage of the rules that generate Valid Usage IDs (VUIDs).
 - 3.1. The implicit VUIDs can be dumped and may be EITHER
 - 3.1.1. covered by auto-generated test cases, OR
 - 3.1.2. [preferred] covered by manual test cases that test the validation layer's code generation logic.
 - 3.2. The explicit VUIDs are usually hardcoded in the validation layer source code (e.g. [core_validation](#)^{6,2} and [best_practice](#)⁷) and require manual test cases to cover them.

The [Vulkan Validation Layers](#)⁹ may be non-normatively referenced.

A non-inclusive list of unallowed use of funds are:

1. **OpenXR Specification Creation** - Contractor can provide feedback, suggestions, and clarification and style edits on existing or proposed OpenXR specification text including editing language, voice, format, and style, but **CANNOT** propose new specified functionality that becomes part of the OpenXR specification using the project funds.
2. **Non-Project Meetings** - All Working Group or Khronos meetings including F2F events are not billable with the following exceptions
 - 2.1. Regularly scheduled "OpenXR / Validation Layers Project" meetings
 - 2.2. Meetings or events explicitly authorized by OWG prior to the meeting or event

Attendance by at least one representative from the Validation Layers contractor at the “OpenXR / Validation Layers Project” meetings is required to provide the Working Group members with updates on the status of the project. The time and cadence of such meetings will be jointly determined by OWG and the Contractor.

5. Deliverables

The contractor shall deliver to OWG the items listed below.

1. Preliminary design report highlighting the specific tests that need to be developed or modified.
2. Final report summarizing the work completed, performance improvements, and recommendations for future enhancements.
3. Validation Layer Tests Software that provides a robust test suite covering the `core_validation` and `best_practices` validation layers, and integrates the test suite to CI/CD of OpenXR SDK workflow in Catch2 using the [Vulkan Validation Layer Tests](#) as a conceptual example.

The mid-term (§5.1) and final (§5.2) reports are to be delivered during the WG meeting. They may take the form of a written report or presentation, whichever means best conveys the intent of the report. The contractor will use existing email list(s) for communicating to OWG or other means as determined by the OWG Chair. The contractor will work under technical direction of the OWG technical project lead as directed by the Chair of OWG.

6. Schedule and Budget

Khronos is funding this work at a total price not to exceed \$10,000 for 6 weeks. If necessary, OWG will evaluate if additional work is required and create a new contract. There will be a single lump-sum payment for this work at the completion of the contract and after invoicing Khronos. Payment shall be made as invoiced provided that the invoice is submitted by the 10th of the month. All proposals are expected to be fixed-price for the work described above.

7. Requirements (Normative)

The Requirements for this project are listed in the deliverables. Ownership and licensing requirements are listed below.

- 7.1. Ownership & Licensing - All material submitted shall follow these rules, procedures, and licensing..
 - 7.1.1. Software and related documentation as [Apache 2²](#).
 - 7.1.2. Content or documentation as [Creative Commons BY Attribution³](#).
 - 7.1.3. Ownership of all new work done under this contract shall solely be Khronos.
 - 7.1.4. Ownership of modified software shall be joint with Khronos being one of the owners.

8. Selection Process

Khronos shall designate a Khronos RFP Manager and will use an RFP email list (oxr_valayers_rfp@lists.khronos.org) that can be used to contact the RFP Manager and all other Khronos members involved in the bid selection process. No member making a bid shall be on the RFP list. Any organization considering making a bid in response to the RFP should notify the RFP list as soon as possible. Notifications to Khronos made through the list will not be revealed by Khronos without the bidders explicit authorization. Any potential bidder may request additional information and submit questions directly to the RFP manager or on the RFP email list. Any additional Khronos information and RFP clarifications will be distributed equally to all potential bidders.

All bidders should provide the following information in the format of their choice:

- Proposed schedule, assuming work starts on **20 October 2025**
- Confirmation that if your bid is accepted, you are willing to work under the terms of the Khronos Contractor Agreement¹. Please read the updated Agreement because there are new sections related to the use of AI.
- Extent of test suite coverage as requested in item #3 in §5. Deliverables.
- Any issues or risk factors that they wish to highlight.
- Supporting materials, including background materials about their company, highlighting experience and expertise relevant to this project.

RFP responses are required by 6:00am PDT (GMT-0700) on 30 September 2025 and should be sent to the RFP list. Bidders may update their bid as they wish before the submission deadline. In exceptional circumstances a requested submission deadline extension may be issued to all bidders at Khronos' discretion. All bids must be good until **31 October 2025**.

Khronos will evaluate all bids and select the bid based on the following items

- Stated and relevant expertise, including experience with
 - OpenXR
 - Catch2 testing framework
 - At least one game engine (Godot, Unity, or Unreal) OpenXR plugin
- Test suite coverage (see §5.3)

- Relevant items from §4: Scope
- Innovative ideas
- Budget and schedule
- Support of the OpenXR ecosystem
- Previous Khronos experience.

Khronos expects to announce the selected bid within four (4) weeks after the submission deadline and will immediately notify all bidders and enter into contract negotiations with the selected bidder to finalize deliverables and payment schedule. Khronos will immediately notify all other bidders once contract negotiations are complete. In the case contractual agreement cannot be reached, Khronos may select an alternative bidder and re-enter negotiations.

Work can start immediately when the contract is negotiated and executed by both parties.

At all times prior to contract execution, Khronos reserves the right to halt the selection process.

9. Contractor's Agreement

The selected contractor will be required to execute the Khronos Contractors Agreement¹ with Milestones and Costs entered into Exhibit B and Contractor Disclosures entered into Exhibit C.

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

There have been recent changes in the Contractor's Agreement, especially with the use of AI in Khronos funded projects. Please ensure that you have read and understand this version of the agreement. Khronos will assess progress on a regular basis and reserves the right to terminate or renegotiate the contract in the event of insufficient progress or other issues.

10. Project Continuation

Khronos currently intends to continue this project through Phase II and III. Successful completion of this project by the contractor enables bidding or assignment on any future follow-on work.

11. References

URLs are explicitly listed. All return the correct content as of 4 September 2025.

1. Khronos Contractors Agreement - <https://members.khronos.org/document/dl/30507>
2. Apache V2 License: <https://www.apache.org/licenses/LICENSE-2.0>
3. Creative Commons By Attribution 4.0 legal code - <https://creativecommons.org/licenses/by/4.0/legalcode.en>

4. OpenXR: <https://www.khronos.org/openxr/>
5. OpenXR API Layers:
https://github.com/KhronosGroup/OpenXR-SDK-Source/tree/main/src/api_layers
6. OpenXR core_validation layer
 - 6.1. Readme:
https://github.com/KhronosGroup/OpenXR-SDK-Source/blob/main/src/api_layers/README_core_validation.md
 - 6.2. Code:
https://github.com/KhronosGroup/OpenXR-SDK-Source/blob/main/src/api_layers/core_validation.cpp
7. OpenXR best_practices layer -
https://github.com/KhronosGroup/OpenXR-SDK-Source/tree/main/src/api_layers/best_practices
8. Catch2 testing framework: <https://github.com/catchorg/Catch2>
9. Vulkan Validation Layers Tests:
<https://github.com/KhronosGroup/Vulkan-ValidationLayers/tree/main/tests>