

Request for quotations

P2022_04 – ASAM OTX Extensions

ASAM calls for offers to support the ASAM project group ASAM OTX Extensions. Please send your offers for this project to offers@asam.net.

Offers shall be submitted no later than 26.07.2024. A Q&A session shall be organized by the ASAM office in Calendar week 30 if requested by the interested service providers.

Project

ASAM OTX Extensions is a project to extend the ISO OTX standard capabilities, which are published under ISO 13209. OTX stands for Open Test sequence eXchange. It is a domain specific programming language (DSL) for process-reliable description of exchangeable and executable test logic inside the automotive industry. 23 new OTX extensions were developed by ASAM and transferred to ISO 13209-4:2021. Additional maintenance of the beforementioned ISO standard parts 2 and 3 is also a part of the project.

The ASAM office and the project group will support the tasks explained in this call for offers for concept development and implementation of the workflow by meeting as needed with the service provider.

Status Quo

The current pipeline in the ASAM OTX project is complex and requires significant manual effort. The current workflow includes discussions in issues/feature requests, a UML model, associated XSD schemata and a specification document. This means there is currently no clear single source, so changes are made across multiple artefacts, leading to significant effort overhead in identifying and aligning changes. As well as selecting a single source for a new workflow, it may be possible to reduce the number of artefacts.

One issue for instance, there may not be a need for a UML model, if all requirements of the specification can be addressed directly by the XSD schemata. As of today, the specification includes an extensive number of graphics generated from the UML model. A new workflow should consider a suitable solution for graphics but may opt to reduce these significantly for simplification purposes. This is dependent on the selected “single source”, if XSD is selected UML graphics may be redundant. Also, the current UML model is edited in Enterprise Architect. This means all the work on UML must be done by a single user and does not allow collaboration on a CI. Another UML solution might be considered.

Another issue is the generation and integration of the documentation. This is currently partially automated via a document generator that gets the XSD as input. The output then is integrated in a Microsoft word format. Automating such integration in AsciiDoctor format shall allow collaboration on the CI, as well as automating ASAM’s editorial rules within the CI. The new workflow shall streamline these issues into an automated pipeline as shall be agreed with the project group.

Tasks

The selected service provider shall be responsible for the creation of a new authoring pipeline for the ASAM OTX Extensions project. This shall consist of concept definition, implementation in a proof-of-concept (PoC) and, on approval by the project group, integration into the full project pipeline. The goal is to automate a large portion of the additional steps and integrate this into a CI-based workflow. The workflow should include:

- Clearly defined single source for developments. Note that this will require alignment with the project group.
- XSD schema validation
- Automated specification generation for all ASAM OTX extensions in the AsciiDoctor format, in accordance with ASAM's editorial guidelines and templates
- Automated Changelog generation
- Consideration for graphical assets (if relevant)

Tasks for the service provider are broken down into the following three tasks:

1. **Workflow concept development**

A new workflow concept shall be developed for integration into a CI/CD workflow. Conceptual development shall include requirements definition for a new workflow and alignment with the project group. The concept shall be presented to the office and project group for approval. Regular alignment with the ASAM office representative should be defined.

2. **Implementation of a PoC of the workflow concept**

The PoC shall be implemented on the gitlab CI based on the ASAM OTX DataType extension. Moving from the PoC implementation to the full pipeline implementation (Task 3) shall be after the acceptance of the PoC by the project working group. Meetings with working group shall be arranged by the ASAM office.

3. **Workflow and Pipeline implementation**

After the concept has been agreed upon in the workflow concept development phase with the workgroup, the service provider shall proceed in scaling up the concept into all other ASAM extensions and implement the Gitlab pipeline on the Gitlab server of ASAM e.V.

- Implement the GitLab pipeline
- Implement all necessary Gitlab jobs/runners for Automation
- Develop scripts and set-up tools for generating artifacts if necessary
- Provide a documentation for the users of the workflow

Deliverables

1. Deliverable of task 1: The Workflow concept. A documentation or presentation explaining the concept workflow and resolved issues shall be sufficient
2. Deliverable of task 2: Workflow PoC implementation for the ASAM OTX DataType extension
3. Deliverable of task 3: Fully implemented workflow in the ASAM OTX repository on ASAM's GitLab, including all required source code, tools and documentation.

The timeline for deliverables is shown in the following table:

Deliverable	Date
The workflow concept delivery	30.09.2024
First demo of the PoC	29/30.10.2024 (ASAM OTX group meeting)
Workflow PoC delivery	17/18.12.2024 (ASAM OTX group meeting)
Fully implemented workflow	28.02.2025

Qualification

To be able to carry out the tasks, the service provider shall meet the following qualifications:

- Expertise in Gitlab Pipelines setup, automation and scripting.
- Expertise in UML/SysML Modeling using commercial software tools such as Enterprise Architect, or Open tools such as PlantUML.
- Expertise in developing file schemas such as xml, xsd.
- Familiarity with ISO 13209 and ASAM OTX Extensions.
- High proficiency in technical English.

Max. service provider budget: **20,000€**

General Conditions

Please note the following general conditions for the project:

- The project period is from 05.08.2024 to 28.02.2025
- The project lead, ASAM office and service provider will jointly determine the need for attendance of the service provider in meetings.
- Offers shall be based on total effort and fixed hourly rates. The offers can be made addressing one, more or all the tasks.
- In case of variable-price offers, please indicate upper limits for the costs
- In case a deliverable is found to be defective or not up to customary industry quality standards, the service provider will correct the deliverable without charging ASAM for the extra work. Not completed work is exempted from the service provider's warranty, i.e. if a deliverable is found to be incomplete, then its completion will not be paid by ASAM
- Modification to deliverables, should they be required, will be jointly reviewed and the order adjusted accordingly
- All work results of the project (including the sources to create them) will be handed over to ASAM and will become the exclusive property of ASAM. If the general terms & conditions of the service provider contain rules that are in conflict herewith, then they must be identified and explicitly declared as invalid for this offer
- Offers must be submitted in writing to ASAM within the above stated bidding period, including a clear description of the services provided and deliverables, terms & conditions, time and costs for the service.
- Please note that offers will be reviewed by the members of the project group, the Technical Steering Committee of ASAM and the ASAM Office. The project group members will not receive pricing information. For this purpose, please put all pricing information on a separate page