

Letter of Intent (V11, January 25, 2014)

This letter of intent is signed between

hereafter Partner and the

Open Source Automation Development Lab (OSADL) eG, 69120 Heidelberg, Germany

hereafter OSADL as follows:

SIL2LinuxMP

The SIL2LinuxMP project aims at the certification of the base components of an embedded GNU/Linux RTOS running on a single-core or multi-core industrial COTS computer board. Base components are boot loader, root filesystem, Linux kernel and C library bindings to access the Linux kernel. With the exception of a minimal set of utilities to inspect the system, manage files and start test procedures, user space applications are not included.

The certification procedure most probably follows the rule of "compliant non-compliant development" and consists of two consecutive project periods of time. In the first period, arguments for the equivalence of a compliant development will be collected and methods to supplement these arguments will be developed where required. The resulting material will be called "public part of the SIL2LinuxMP certification data package". In the second period, the developed material and methods will be applied to the individually specified hardware and software components. In addition, the platforms will undergo specific testing. Results from generic testing of this period also will go into the public part of the SIL2LinuxMP certification data package. Other data will be very specific and different for every set of requirements; they will be called "private part of the SIL2LinuxMP certification data package". However, since much of these procedures are done for the first time, they may change and be adapted to the needs throughout the project. It is estimated that every period will have a duration of approximately one year.

Intent

Partner confirms, by signing this letter of intent, their interest in participating in the SIL2LinuxMP project of OSADL as a

- Full Partner
- Reviewing Partner
- Academic Partner
- Other regulatory authority (observer status)

and joining the related consortium. Partner has marked the intended partner status. Full Partners and Reviewing Partners agree to join OSADL as Regular Member, and Academic Partners agree to join OSADL as Academic Member. In both cases, the related membership must be established at the time when the consortium agreement is signed and may not be canceled before the project is finished.

The principle goal of the SIL2LinuxMP project is to establish the certification data necessary to achieve a platform certification compliant with Safety Integrity Level 2 according to IEC 61508 Ed 2 2010 (claims/arguments and evidence). However, it is well conceivable that other sector standards might be a preferred initial target. For the purpose of consolidating the efforts, it is, therefore, requested to note what the Partner's preferred target standard would be. For the SIL2LinuxMP initiative, OSADL is confident in offering

- IEC 61508 Ed 2
- IEC 62061
- ISO 13849
- EN 50128 Ed 2

Partner has marked above the standard preference (multiple selection allowed).

If other domain-specific standards are needed, Partner has marked them below. They may be included, if they fit into the project (i.e. can be regarded as 61508 derivatives) and a sufficiently large number of partners is requesting them.

- Other standard: _____

This letter of intent confirms Partner's intent to sign a final agreement within eight weeks after the availability of the related consortium agreement under the following conditions of the cost sharing model:

Cost sharing model

Based on an estimated overall project cost of 320.000 euros, the following distribution of costs would be conceivable:

- a) Four Full Partners shall share equal costs of up to 256.000 euros (80% of total project cost).
- b) Four Reviewing Partners shall share equal costs of up to 32.000 euros (10% of total project cost).
- c) OSADL shall cover 32.000 euros (10% of total project cost).
- d) Academic partners and other regulatory authorities shall be exempted from cost participation.

Any other distribution of costs that ensures the overall project costs are covered is acceptable as well. The commitment made with this letter of intent, however, is limited to 64.000 euros of a Full Partner and 8.000 euros of a Reviewing Partner, respectively. It is estimated that one half of the overall project cost will be needed for the first project period and the other half for the second project period. Since the start of the second period depends on the successful completion of the first period, half of the partner contributions in the total amount of 160.000 euros will be placed on a blocked account and not released for the project, unless the certifying authority confirms in writing that the developed procedure is plausible and reasonable and can be expected to lead to a successful certification of the involved Full Partners' hardware and software platforms. Should the certifying authority be unable to provide such confirmation, the project will end, and the blocked funds will be reimbursed to the Full and Reviewing Partners.

Share of results

- a) Full Partners shall have the right to select a reference platform (computer board, boot loader, root file system, Linux kernel version and configuration) to be included in the initial certification targets (one per partner).
- b) Reviewing Partners shall have the right to participate in the development of the overall safety arguments, claims and evidence base so to best suit their future needs. Reviewing Partners have the right to utilize the public part of the certification data package for their future certification efforts.
- c) Partners shall be able to enter the agreement on a first-come, first-served basis. Early entered members shall be allowed to exercise their right of veto when a later entering member may constitute unsolvable business conflicts, e.g. because very similar devices are to be developed for the same market.
- d) The use of the certificate issued by TÜV Rheinland shall be limited to Full Partners and the initially defined requirements such as the hardware and software reference platforms.
- e) The public part of the certification data package, i.e. general procedures and methods including software components developed during the SIL2LinuxMP project will be made publicly available at the end of the project under an Open Source or equivalent license. The private part of the certification data package, i.e. data that relate to the individually specified requirements including related claims, arguments and evidence may only be made publicly available, if the respective Full Partners agree on it.

Confidentiality

No confidentiality requirements apply to the public part of the certification data package. The private part of the certification data package must be kept secret, if requested.

IP Issues

All partners agree that they will license their patents and copyrights under a license compliant with the Open Source Definition (OSD) with regard to all material intended to be entered into the public part of the certification data package.

Agreed intent

By signing this letter of intent, Partners agree to accepting the above mentioned conditions in the final consortium agreement; withdrawal from the final agreement without any penalty shall be limited to the following conditions

- a) The estimated total budget of at least 320.000 euros, e.g. by four Full Partners and four Reviewing Partners, is not reached before June 30, 2015.
- b) A simple majority of OSADL members does not vote in favor of this project.
- c) A Partner is presenting a plausible case of conflict of business interests that would not allow to participate in the final consortium.
- d) A Partner has only selected an unlisted standard, but a sufficiently large number of partners is not requesting it.
- e) If a majority embraces one of the alternative standards, and this majority satisfies the noted funding requirements, the consortium can opt to switch to this alternative standard by majority vote. In this case partners that have formally noted the intent to join the project but do not intend to endorse the alternative standard may exit at no penalty from the project.

In any other case, a penalty for breach of contract in the amount of 20% of the accepted contribution to the budget shall be applicable.

Place of jurisdiction

This letter of intent will be governed by the laws of Germany, except for its conflicts of laws principles. The place of jurisdiction for all disputes arising from or in connection with this letter of intent shall be Mannheim, Germany.

Signatures

Partner

Location:

Date:

Signatures:

Open Source Automation Development Lab (OSADL) eG

Location:

Date:

Signatures:

General Manager or Member of the Board of Directors

Member of the Board of Directors

Lead of the OSADL Safety-Critical Linux Working Group