

SIL2.3 Letter of Intent (V4, December 11, 2017)

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:

Original SIL2LinuxMP Project

The original SIL2LinuxMP project aimed at the certification of the base components of an embedded GNU/Linux RTOS running on a 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, management files and start test procedures, user space applications are not included.

The certification procedure mostly follows the rule of “compliant non-compliant development” (3_s) and consists of two consecutive project periods of time. In the first period, arguments for the equivalence of a compliant development were collected and methods to supplement these arguments were developed where required. The resulting material is called “public part of the SIL2LinuxMP certification data package”. In the second period, the developed material and methods were intended to be applied to the individually specified hardware and software components. In addition, it was planned to subject the platforms to extensive testing. Results from the generic testing of this period also were intended to go into the public part of the SIL2LinuxMP certification data package. Other data that are very specific and different for every set of requirements should be called “private part of the SIL2LinuxMP certification data package”. It was estimated that every period has a duration of approximately one year.

The project was started on April 1, 2015 when the prerequisites for launching were fulfilled with four so-

called Full Partners and eight so-called Reviewing Partners. According to the original schedule, a Go/NoGo meeting was held in March 2016; as a result of this meeting it was concluded that the data provided so far are promising in a way that justifies entering the second one-year period of the project.

Current status

As of December 2016, none of the envisaged hardware platforms and use case specifications are available, and it became evident that the contributions of the partners' personnel would not reach the estimated amount. As a consequence, the goal of the original SIL2LinuxMP project, i.e. to receive at least two certificates until March 31, 2017, could not be reached as was announced in March 2016. It was, therefore, decided to append a further project period dubbed "SIL2.2" to prolong the project by 9 months resulting in a new estimated end of the project on December 31, 2017. In addition, the lacking partners' work contributions will be compensated by increasing the number of project staff.

As of March 31, 2017 the original cost sharing model was not fulfilled, since only letters of intent in the total amount of 196,000 instead of the requested 312,000 euros were signed. However, one of the existing partners provided the funding to fill the monetary gap. After the legally binding confirmation was received that the difference in the funding model in the amount of 116,000 euros is made up by one of the existing partners, sufficient letters of intent could be signed so the cost sharing model was fulfilled, and the SIL2.2 period of the SIL2LinuxMP project was launched on April 1, 2017 with a duration of nine months, i.e. until December 31, 2017.

In October 2017, large parts of the project that could be carried out so far were completed. However, suitable computer hardware and the required safety documentation were still lacking. To continue the project without losing momentum while waiting for the required hardware and documentation, it was decided to start a new project dubbed "SIL2LinuxMP/SIL2.3 Dissemination and Community Feedback Project". The aim of this project period is to communicate the results, processes and knowledge that were gained so far in the first two project periods to a wider audience and to receive scientific and technological feedback. In addition, more seminars, workshops and training courses on the certification routes of the SIL2LinuxMP will be offered to the partner companies. Last not least, the documents and processes developed so far will be completed and adapted. The SIL2.3 project will have a duration of 12 months and is expected to start on January 1, 2018.

Intent

Partners confirm, by signing this letter of intent, their interest in participating in the SIL2LinuxMP/SIL2.3 Dissemination and Community Feedback Project of OSADL as a Full Partner or Reviewing Partner.

Membership levels and changes

Based on recent communication with previous SIL2LinuxMP Full and Reviewing Partners and with some external companies, the following future membership levels and changes are conceivable:

- At least one Full Partners will continue at the same membership level.
- A previous Reviewing Partner may upgrade to Full Partner level.
- Several previous Reviewing Partners indicated that they would like to continue at the same membership level.
- Another company who is not yet involved in the SIL2LinuxMP may join in as Full or Reviewing

Partner.

Cost sharing model

The following fees are charged for the participation at the SIL2LinuxMP/SIL2.3 Dissemination and Community Feedback Project:

- Continuing Full Partner: 32,000 euros
- Upgrade from Reviewing Partner to Full Partner: 48,000 euros
- New Full Partner: 64,000 euros*
- Continuing Reviewing Partner: 8,000 euros
- Downgrade from Full Partner to Reviewing Partner: 8,000 euros
- New Reviewing Partner: 12,000 euros*

*Please note that a new Full or Reviewing Partner must join OSADL at least as Bronze member before participation in the SIL2LinuxMP/SIL2.3 Dissemination and Community Feedback Project is possible.

The commitment made with this letter of intent is limited to the above given fees per partner. However, this commitment does not limit in any way additional contributions to the project that are not governed by this letter of intent.

Share of results a) – different from the rules in the original SIL2LinuxMP project

- a) Not applicable.

Share of results b) to e) – same rules as in the original SIL2LinuxMP project

- 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 – same rule as in the original SIL2LinuxMP project

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 – different from the rules in the original SIL2LinuxMP project

For purposes of this project, to the extent a Partner includes software in its materials included in the public part of the certification data package, such Partner agrees to license such software in a manner compliant with the Open Source Definition (OSD). In addition, each Partner understands that all materials that were included in the public part of the certification data package are intended to be made available in a manner compliant with the Open Source Definition (OSD), and will participate in this project in a manner consistent with that objective.

Agreed intent

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

- The estimated total budget of at least 64.000 euros is not reached before February 1, 2018.

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 – same as in the original SIL2LinuxMP project

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.

Requested SIL2.3 membership and contribution level (please tick)

- Continuing Full Partner (Total amount of 32,000 euros due on January 1, 2018)

- Upgrade from Reviewing Partner to Full Partner (Total amount of 48,000 euros due on January 1, 2018)

- Newly joining Full Partner (Total amount of 64,000 euros due on January 1, 2018)

- Continuing Reviewing Partner (Total amount of 8,000 euros due on January 1, 2018)

- Downgrade from Full Partner to Reviewing Partner (Total amount of 8,000 euros due on January 1, 2018)

- Newly joining Reviewing Partner (Total amount of 12,000 euros due on January 1, 2018)

- Newly joining contributing subcontractor of a Full or a Reviewing Partner (free of charge)

- Continuing Academic Partner (free of charge)

- Newly joining Academic Partner (free of charge)

- Continuing Certification Authority (free of charge)

- Newly joining Certification Authority (free of charge)

Signatures

Partner or contributor

Location:

Date:

Signatures:

Open Source Automation Development Lab (OSADL) eG

Location:

Date:

Signatures:

General Manager or Member of the Board of Directors

Lead of the OSADL Safety-Critical Linux Working Group