Constituting Meeting of the seL4 Technical Steering Committee

Wed, 20 May 2020, 16:00-17:30 AEST, by Webex

Attendance

TSC members present:

- June Andronick (JA)
- Matthew Brecknell (MB)
- Kevin Elphinstone (KE)
- Gernot Heiser (GH)
- Gerwin Klein (GK)
- Rafal Kolanski (RK)
- Ihor Kuz (IK)
- Corey Lewis (CL)
- Anna Lyons (AL)
- Kent Mcleod (KM)

Minutes

1. Welcome

   GH opened the meeting as acting chair, welcomed all members, and noted attendance.

2. Minutes of previous meeting

   Nothing to approve, no previous meeting

3. Election of Chair

   Gerwin Klein was elected Chair of the TSC. GH vacated the Chair for GK.

4. Proposal for Sysadmin role

   RESOLVED: The TSC created the new role of Sysadmin with the following description.

   > People with admin access to the seL4 GitHub org and repositories for purely administrative purposes, e.g. maintenance of CI infrastructure and repo membership/access control.
   > The role does not confer membership or voting rights in the TSC.

   RESOLVED: Chair to invite to this role: Peter Chubb, Luke Mondy

5. (New aganda item) Proposal for Reviewer role and clarification on Committer role

   RESOLVED: The TSC created the new role of Reviewer, which can be assigned to approve and act on GitHub pull requests, issues, etc., but cannot merge or commit directly.

   GK will investigate if Data61 can make the `ssrg-bot` test trigger available to all Reviewers.

Role description:

> People with technical experience and interest to approve reviews on pull requests, be assigned and maintain issues, but without full commit rights. They would typically be active Contributors already, but exceptions are possible. They become members of the seL4 GitHub org.
> The role does not confer membership or voting rights in the TSC.

RESOLVED: Chair to invite to the Reviewer role:

- active contributors from Dornerworks
- Axel Heider from Hensoldt Cyber
- Ben Leslie from Breakaway

The role of Committer was clarified as follows.

> While the initial composition of the TSC are the Committers and technical leaders of the project, the TSC can decide to give someone commit rights without making them a member of the TSC.

RESOLVED: Chair to invite to the Committer role:

- kernel engineers at Data61
- verification engineers at Data61

6. Process for accepting contributions

RESOLVED: the TSC recommends to the board for approval the following process and requirements for accepting contributions to repositories of the seL4 foundation.

> Contributions to the seL4 foundation repositories are usually by pull request. To be accepted they must satisfy the following conditions.
> - All repositories:
>   - 1 review approval required
>   - the aim should be for 2 reviews on each nontrivial pull request
>   - style, DCO, license, and regression tests required to pass
>   * exceptions possible by approval of a Committer if there are good reasons
>   * style tests may vary per repository where it makes sense, but by default should standardise on those encoded in the repository `sel4_tools`
>   * regression tests may vary per repository; for the `seL4` repository these should include the proofs + hardware and/or simulator runs (currently via `ssrg-bot` provided by Data61)
>   - anyone can and is encouraged to comment on pull requests (no role required)
>   - review approval/assignment can be anyone in the Reviewer role
>   - pull requests can be merged only by Committers or `ssrg-bot`
>   - Data61 as the maintainer of `ssrg-bot` must follow the same process internally for input to `ssrg-bot`
> - Verification target repositories (currently `seL4`):
>   - a pull request can only be merged into the master branch if either

> the proof is updated at the same time or there is no proof impact.
> - there is no proof impact if:
>   - the preprocessed source for verified code has not changed, or
>   - the proofs still work unchanged despite a change
> - for proof updates:
>   - submit a pull request to the `l4v` repository together with the pull request for `seL4`, or
>   - ping the `@verification` team on the GitHub seL4 org for help in updating the proofs, or
>   - talk to the seL4 Foundation about finding funding and/or finding volunteers for the proof updates if it is a bigger project.

7. Process for features to be included on the official seL4 roadmap

   RESOLVED: After discussion, the TSC decided on the following process for features to be included on the official published roadmap for the seL4 ecosystem.

   > A new feature can become a part of the official seL4 roadmap by decision of the TSC. The roadmap is for larger contributions to the seL4 ecosystem, such as new architecture ports, new large formal verifications, large or fundamental new features, user-level frameworks, or components with general interest to the community.
   >
   > The purpose is to provide a timeline to the community of when which contributions will become available, with a reasonable level of commitment, and for contributors to advertise to others which larger contributions they are working on.
   >
   > To submit a request to the TSC for putting a planned feature on the roadmap, send an email to any TSC member with a description of the contribution, the planned timeline, and level of confidence for achieving it, e.g. by pointing to any related RFC. The TSC will discuss the proposal and either request more information or vote on it.

8. Process for becoming a member of TSC, Committer, Reviewer, and Sysadmin roles

   RESOLVED: The TSC adopts the following process for adding new members to the TSC, Committer, Reviewer, and Sysadmin roles. For the TSC, the main item remains as described in the TSC charter: new members are added by decision of the TSC. The process merely provides triggers and procedures for that decision.

   > - voting rules as in the charter for decisions of the TSC (simple majority vote, 50% quorum)
   > - the vote does not need to be anonymous internally to the TSC, but is not public.
   > - the TSC roles (TSC member, Committer, Reviewer, Sysadmin) are personal and cannot be delegated or inherited.
   > - each TSC meeting should have an agenda item "new members", where any TSC member can put forward names for membership, possibly suggested by the community beforehand, or self-nominated to that TSC member by the proposed person. New members are expected to be active contributors with the technical knowledge required for the role and a vision for the future of the seL4 ecosystem. This agenda item is not

> public.
> - proposed members will be invited to participate in the next TSC meeting without voting rights
> - the vote is either held directly after the public part (if any) of that TSC meeting or can be scheduled for the next TSC meeting.
> - for Committer (without TSC membership), Sysadmin, and Reviewer roles, any TSC member can propose, and the vote can be immediate (no separate invitation required)

9. Termination of membership

   RESOLVED: The TSC adopts the following process for removing members from the TSC, Committer, Reviewer, and Sysadmin roles.

   > - any member can leave the TSC at any time on their own request (e.g. by email) to the chair of the TSC; the same holds for Committer, Sysadmin, Reviewer roles
   > - not attending 3 TSC meetings in a row, or 1 year of no contributions to any TSC business, discussions or any of the relevant repositories triggers a vote at the next TSC meeting whether the member should be removed from the TSC.
   > - 1 year without contributions or a proposal by a TSC member can trigger a vote of removal from Committer, Sysadmin, and Reviewer roles
   > - misconduct according to the published seL4 code of conduct can trigger a vote for removal from the TSC, Committer, Sysadmin, or Reviewer roles on proposal by any TSC member
   > - the vote will be held without the person whose membership is under consideration; the person will be given a chance to comment, ideally before the TSC meeting.

10. Discussion: What else should be done to make seL4 repos more friendly to contributions

    This was an initial discussion, to be continued in later meetings. Discussion contributions:

    - MB: encouraging Data61 to move more of internal development to github, where intermediate state is more visible.

    - KM: Nontrivial technical considerations with CI, workflow, test setup etc.

    - GK: Could make start on `l4v` which has simpler workflow, and a subset of the technical problems to solve.

    - KM: could commit to periodically go through pull requests and issues to ensure liveness and progress on contributions.

    - JA+GK: make it easier and faster to check whether a contribution breaks verification; ideally without human input (currently needs manual `ssrg-bot` trigger). Pre-process test should be easy to port to GitHub, testboard less so, and may be too slow to run on GitHub workflows.

    - RK: Data61 verification people could trigger testboards on Data61's servers if preprocess fails

    - AL: AWS and other places offer free CI minutes to non-profits for which the foundation may qualify

Action: KM, RK, GK, and MB volunteer to develop these ideas further until the next meeting, implement what can be implemented without TSC approval in their roles as Committers, and report on the rest.

11. Discussion: View on longer-term evolution of TSC

   Deferred to next meeting.

12. Form of next TSC meeting

   TSC meetings are planned to be public from next meeting on. Discussion on form, announcement, time-zone, level of interactivity with non-members, and potential registration to judge numbers for technology selection. Chair will take the discussion into account for organising the next meeting.

13. Any other business

   - CL: Should seL4 GitHub organisation membership be public?

     RESOLVED: By default seL4 GitHub organisation will be public, unless specifically requested otherwise by a member.

   - MB: Status of TSC mailing list – is it public?

     The current TSC mailing list is private to the TSC members, but others can send to it.

   - Where should public TSC business discussion happen outside meetings?

     The charter allows the TSC to make decisions in writing outside meetings. Our aim is to make TSC discussions public as far as possible.

     RESOLVED: the TSC will announce technical proposals to be voted on outside TSC meetings on the seL4 developer mailing list for comment and discuss technical issues (outside TSC meetings) there where practical.

   Meeting closed 17:30 AEST

Summary of Actions

   - GK (item 4): make invitations for Sysadmin role
   - GK (item 5): make invitations for Reviewer role
   - GK (item 5): investigate `ssrg-bot` trigger for Reviewer role
   - GK (item 5): make invitations for Committer role
   - GK (item 6): send contribution process to the board for approval
   - KM, RK, GK, MB (item 11): develop ideas for making the seL4 foundation repositories more friendly to contributions

Acronyms

TSC Technical Steering Committee of the seL4 Foundation

Minutes prepared by Gerwin Klein, finalised 2020-06-02