

seL4 CoE Way Forward

2nd Annual seL4 Summit

Hyatt Regency Dulles

Herndon, VA

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Griffiss Institute**

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Presentation Outline

- CoE Organizing Committee
- Committee Agenda Items
- Community Survey Pilot Test
- Planning for 2020 Summit

CoE Organizing Committee

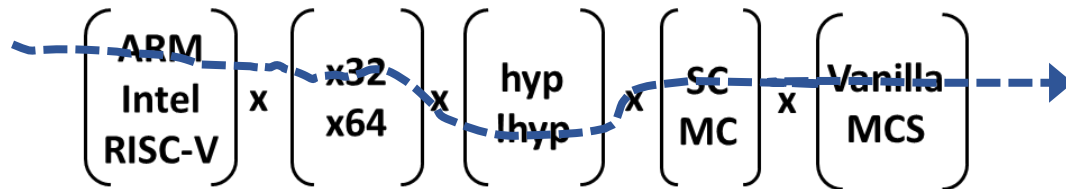
- A volunteer organization to bootstrap the CoE
- Representatives:
 - Raymond Richards (DARPA)
 - Renato Levy (IAI)
 - June Andronick (Data61 Trustworthy Systems Group)
 - Jason Li (Siege Technologies)
 - Nick Evancich
 - Douglas Schafer (AFRL)
 - Jerry Dussault (Griffiss Institute)
 - Technical advisors as necessary
- Engagements: 2nd Tues of each month

Committee Agenda

- Governance and by-laws
- 2020 Summit
- Outreach
- Model for a self-sustaining organization (budget and revenue sources)
- Private repository
- Code distribution for developers
- Definition and method(s) for developer “certification”

Download Package(s)

- Hypothesis: Developers need packages that are verified, tested, and under configuration control



- Hardware platform
- Version of kernel verified for that hardware
- Libraries + VMM + ...
- Tools + ...
- Documentation and Tutorials

Developer Certification

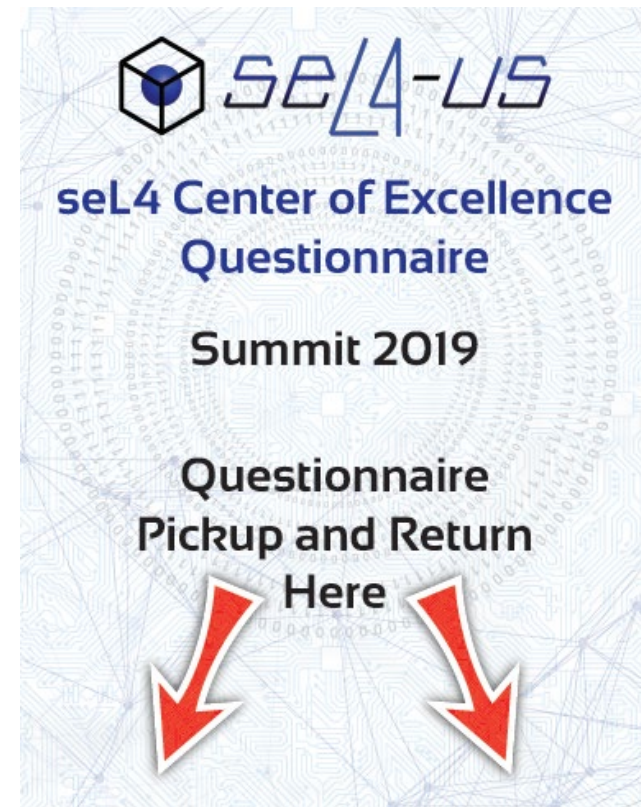
- Different expectations for different types of developers, may warrant multiple certification levels. Notionally:
 - Certified seL4 developer
 - seL4 Architect
 - U.S. DoD Certification (for DoD employees and contractors)
- Establish the minimum set of knowledge and skills
- Curriculum development
- Prepare trainers
- Certification method(s): online test or classroom exercises ?
- Administered by the Griffiss Institute for the CoE

CoE Community Survey

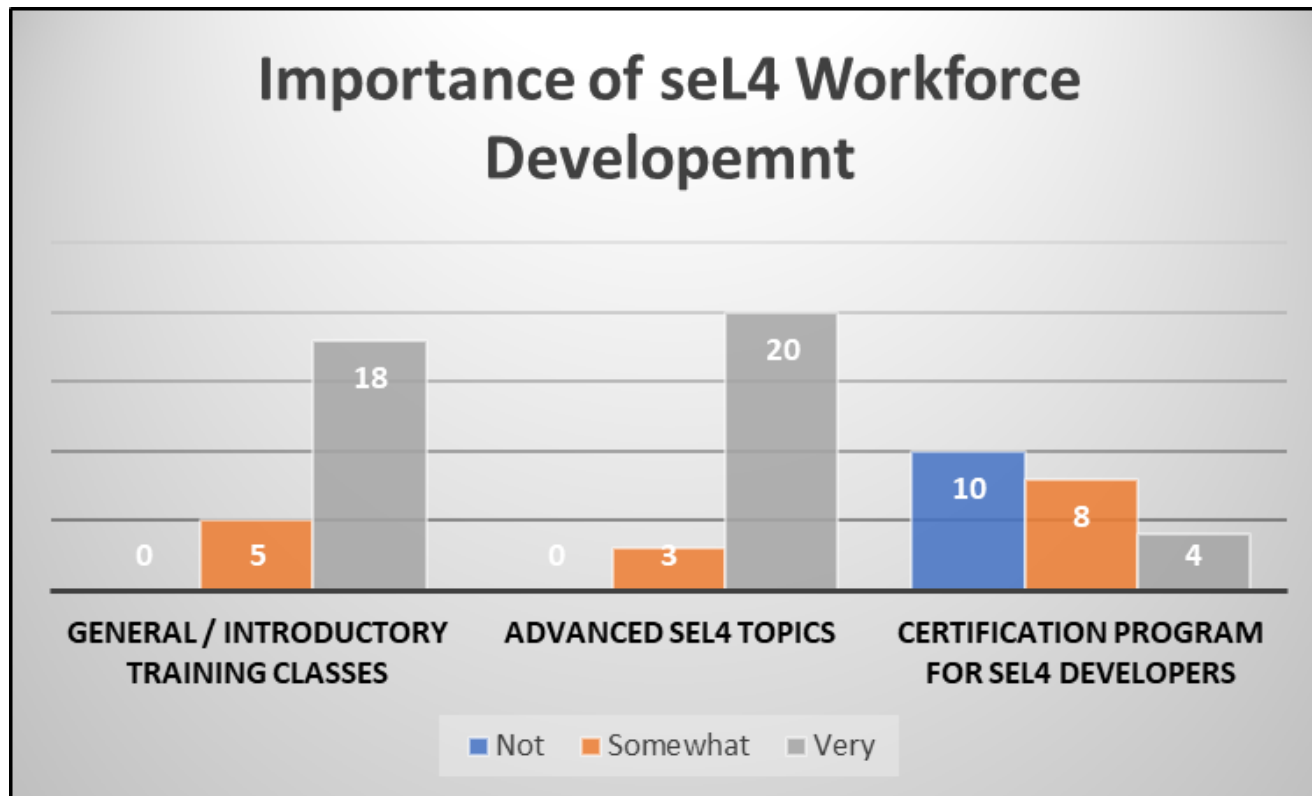
- An initial indicator of stakeholder needs and priorities – to inform the CoE organizing committee

24 Responses

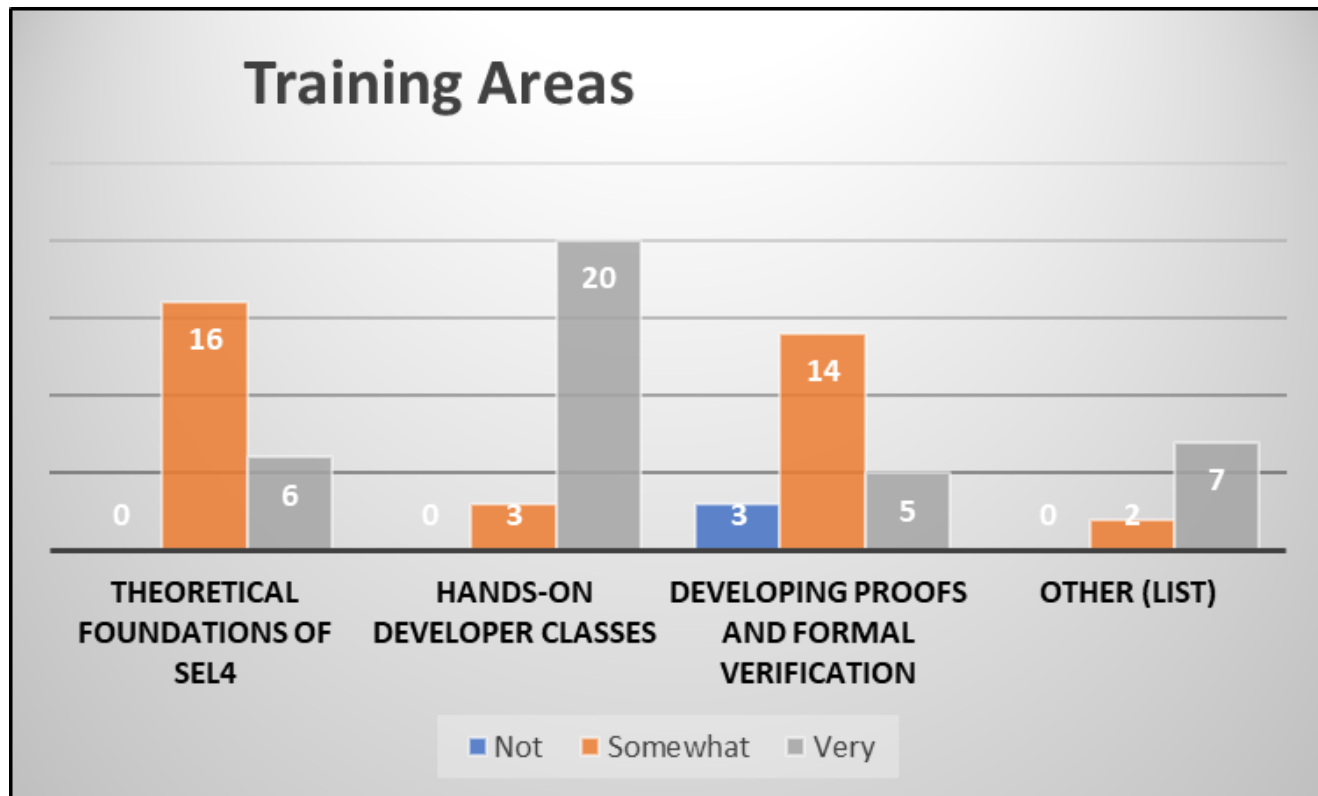
- Thank you for participating!



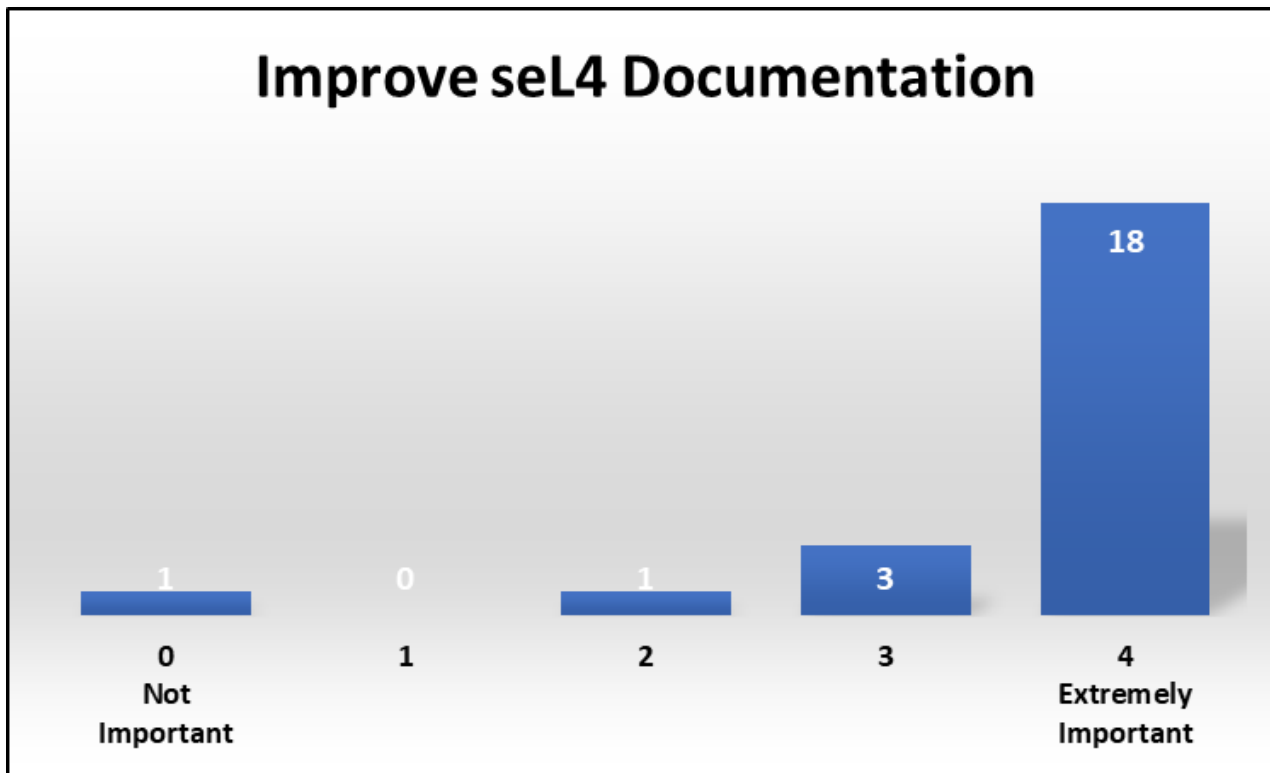
The relative importance of improving seL4 workforce development opportunities



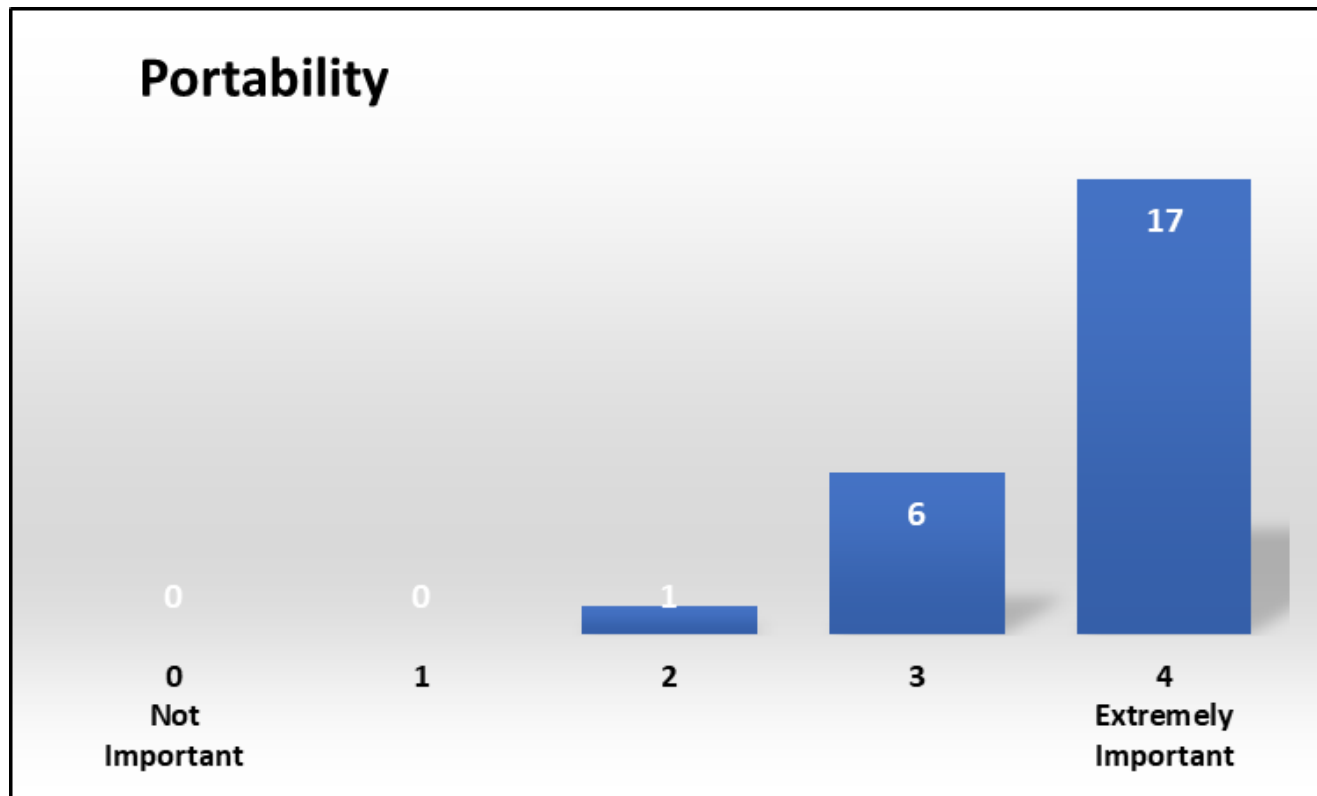
Training: the relative importance of the following training areas



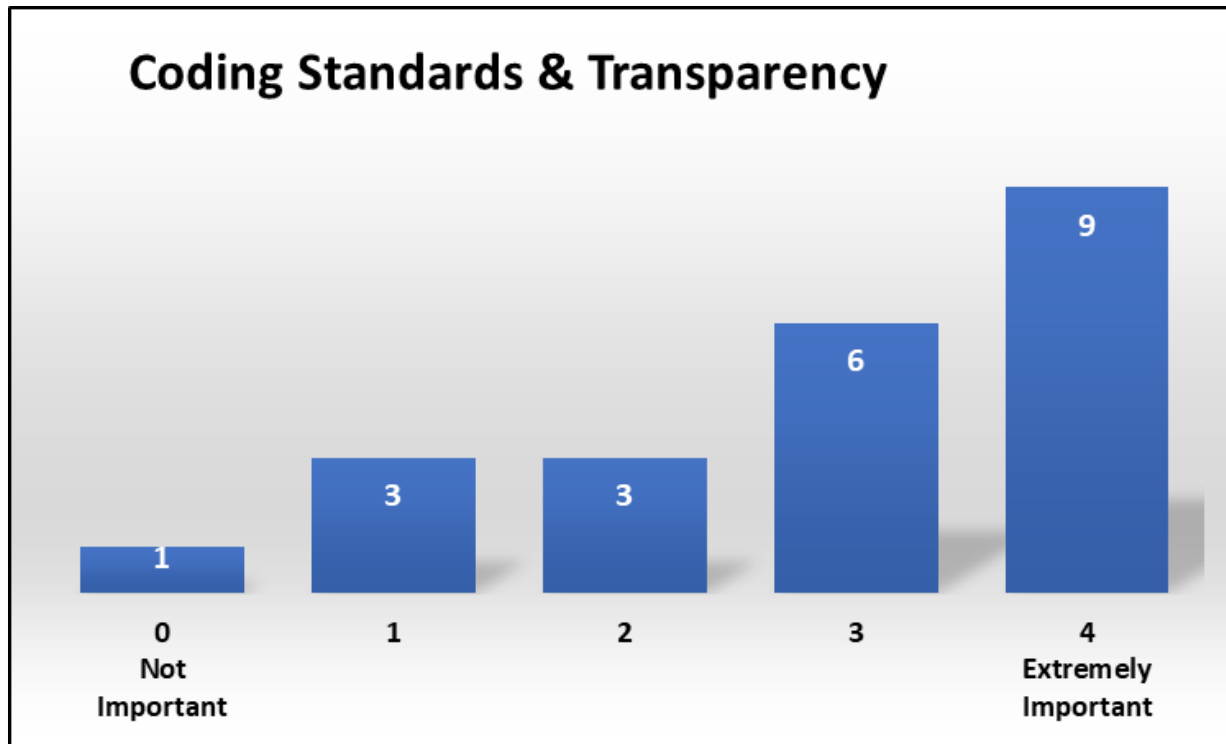
How important is the development of improved seL4 documentation?



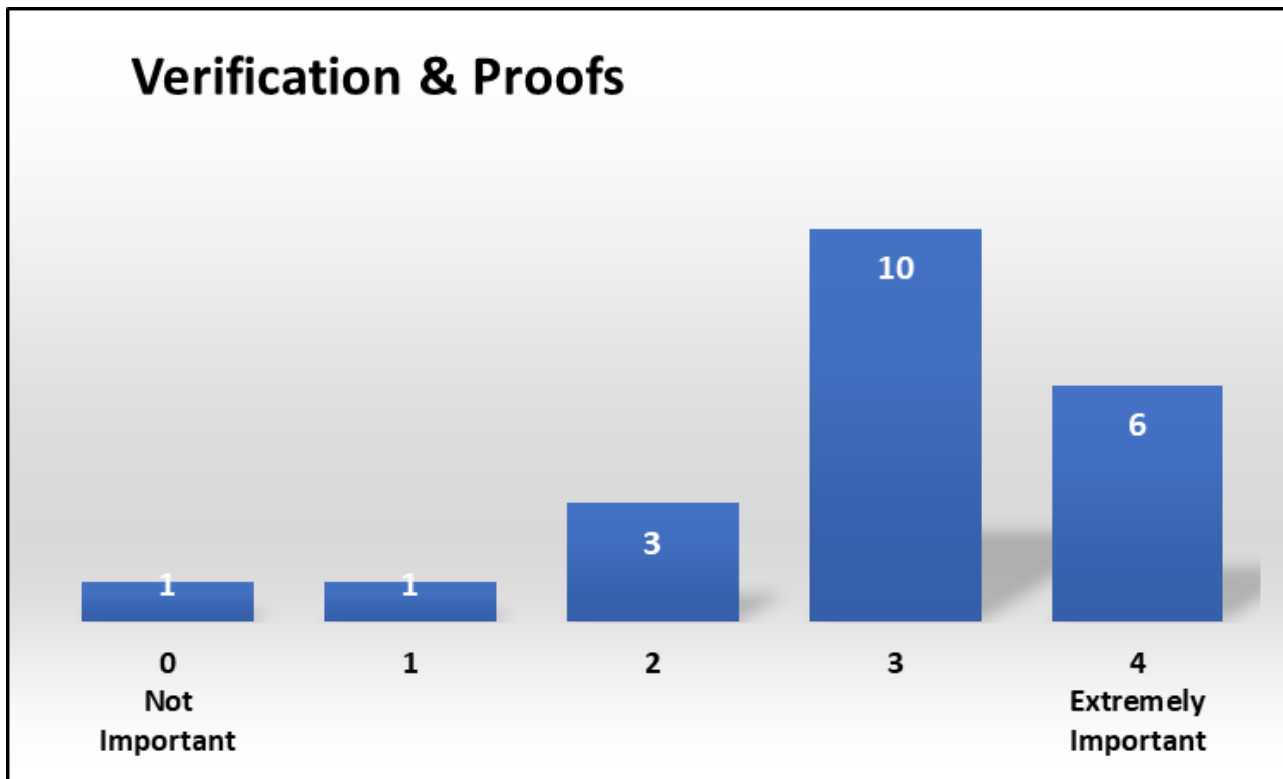
How important is improving the portability of seL4 (e.g., hardware compatibility lists, automated h/w evaluation, additional drivers, board and peripheral support)?



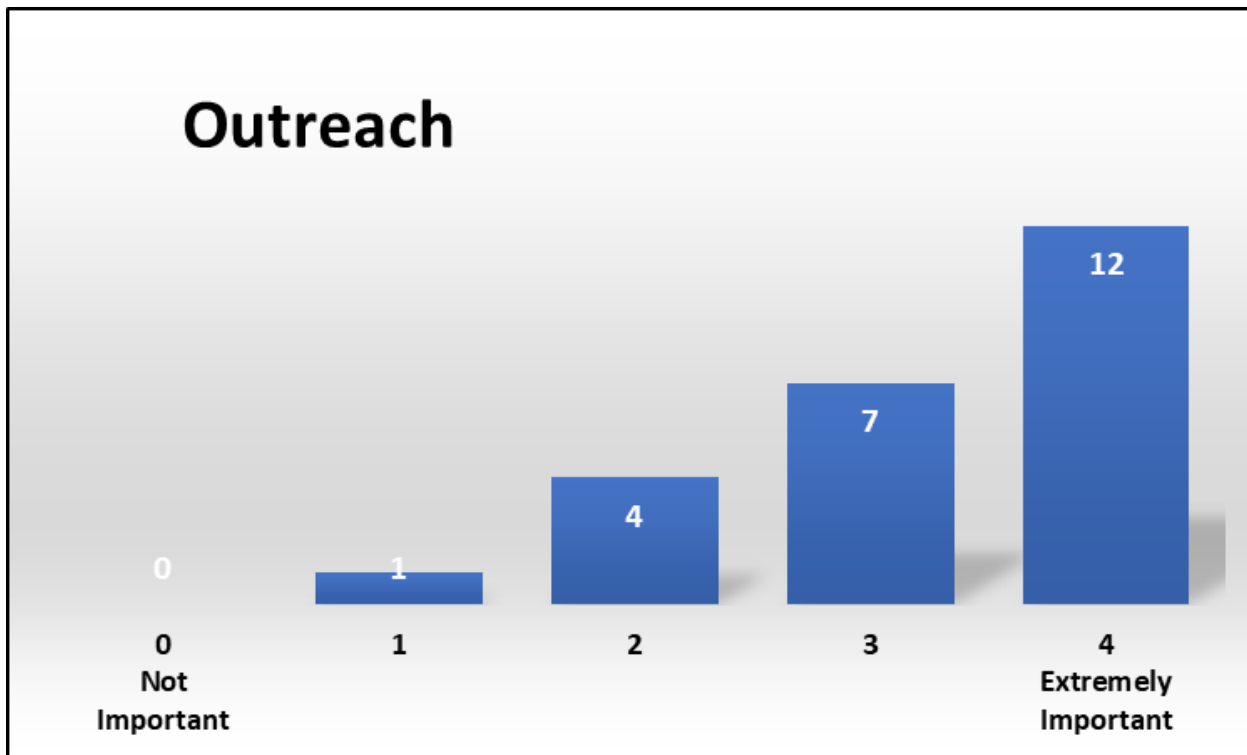
How important are well-defined coding standards and a transparent process for managing the evolution of the CoE code base (e.g., drivers, user-space code, etc.), by the community of contributors?



How important is formal verification and availability of proofs or other evidence in the evolution of the CoE code base (e.g., drivers, user-space code, etc.), by the community of contributors?



How important are outreach activities and opportunities for information exchange (e.g., seL4 annual summit, sponsoring workshops, supporting online forums, etc.)?



2020 Summit Planning

- Dates: ~ week of 19 Oct 2020
- Location: Herndon, VA
- 2020 Summit Team:
 - General Chair: Dr. Renato Levy
 - Vice Chair: Jerry Dussault
 - Program Chair: Dr. Jason Li (could have a 'junior' PC chair, who would become the PC chair in 2021)
 - Local Chair: David Ditzenberger
 - Registration Chair: Regan Robertson at EE
 - Student Travel Chair: Prof. Zhuo Lu at USF
 - Publicity Chair: TBD
 - Donations Chair: TBD - important.

Questions?

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