

seL4 Center of Excellence – Plans and Progress

Intelligent Automation, Inc.

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Distribution Statement A.

Approved for public release. Distribution is unlimited.

seL4 CoE Philosophy

● Community

- Software is complex and shouldn't be created by a single entity
- Combine the experience of more people

● Quality

- Increase the number of eyes on the source code
- Community driven
- Features driven by the community's need

● Permissive Licensing

- Not for profit
- Promotes the use of open source software
- Maximize the benefit and impact

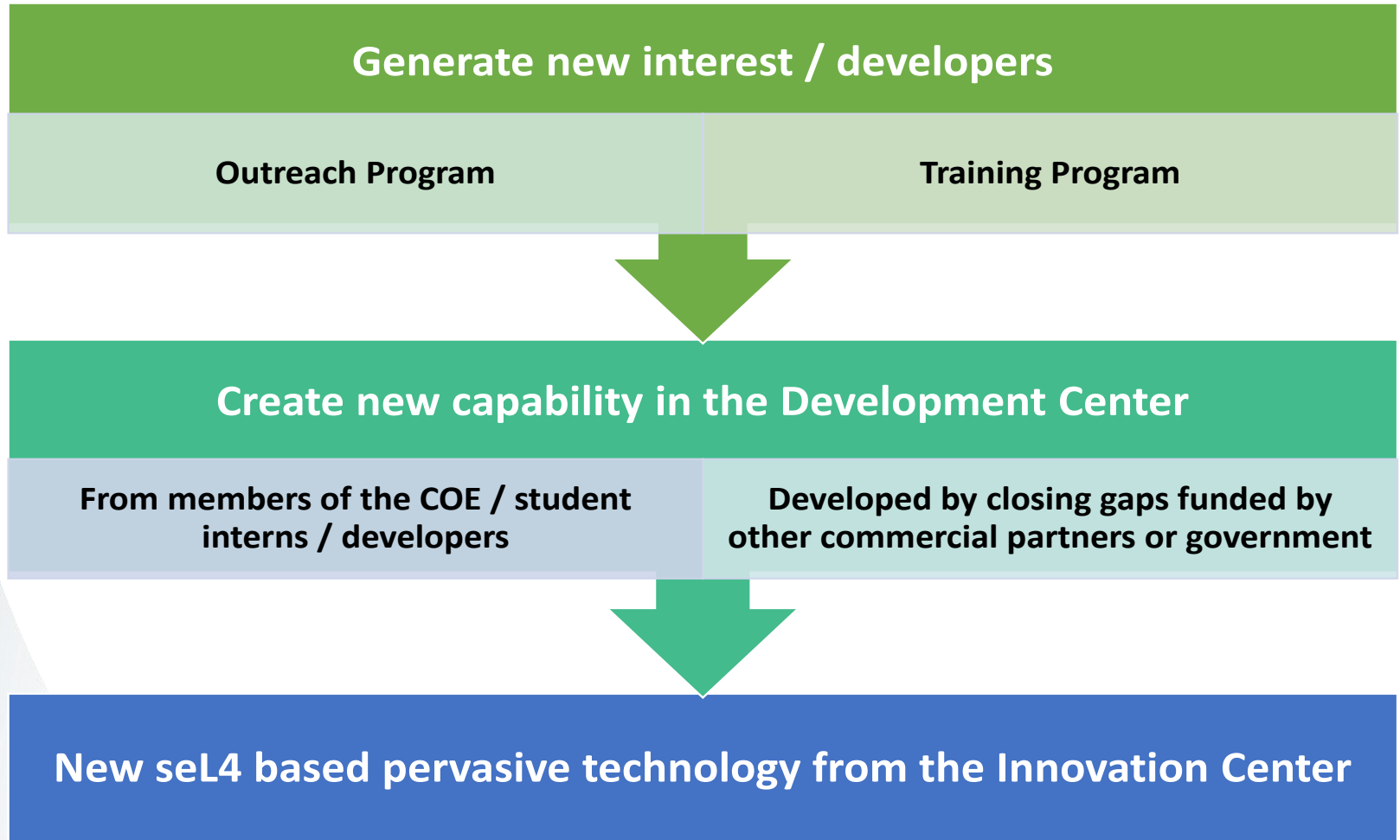


CoE Components



- Training
 - Online training
 - On-site training
 - seL4 developer certification
- Development Center
 - Gaps in seL4 and new capabilities
 - U.S. Repository
 - “Controlled” Repository
- Innovation Center
 - Bringing new ideas
 - Landing pad for other DoD programs
 - Incubator for new ideas
- Outreach Program
 - Hosting interns
 - Moderating forums
 - Sponsoring various academic papers
 - Holding workshops

CoE Workflow



Accomplishments



Current Progress - 1

Training

- Collaboration with other contributors
- Tutorials and training materials on wiki page
- Course materials & try-out at AFRL / GI / CRI
- Matured training materials during Summit 2018
- Transition plan (SAE, GI)

Outreach

- Website <https://sel4-us.org/>
- Engagement of most seL4 performers in the U.S.
- seL4 internship
- 2018 Annual seL4 Summit
- Academic projects
- MILCOM panel on secure embedded system design



Current Progress - 2

Development

- Stabilized seL4 with bug fixes and thread safety
- New libraries with API for process and threads
- seL4 hardware lab
- Public release of source code from DARPA
- Version 1.0 available on 08/30/2018 at GitHub
<https://github.com/sel4-us/>

Innovation

- Conversations with most U.S. seL4 performers
- New ideas and opportunities identified
- An example workflow
 - seL4 libraries put in the incubator stage
 - Included in the open-source DARPA release
 - Part of Version 1.0
 - Expect good usage



Some Thoughts to Share

- Participation → success
- Do what is best for the community
- Keep the source code clean
- Follow the process
- Maintain relevant documentation
- Technical roadmap & visions
- New projects and applications
- Agree on purpose
- Establish the governance
- Manage legal issues
- CoE operations
- Technical support
- Community facing teams
- Engage more users with various events



