

Tools WG Update

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Aerospace · Automotive · Linux Features

Medical Devices · OS Engineering Process

Safety Architecture · Systems · Tools

2023 Recap

- Working group largely considered it's original mission complete
 - Training up kernel contributors
 - Analyzing static analysis violations, and submitting patches where needed
- Continued supporting CI activities for Automotive, Systems, and Medical
 - Integration of OpenQA
- TSC desire to keep the group going but broaden it's work scope
- Matt took over WG lead role in Oct.

Current Activities – Mission Statement

- Reworking the Mission Statement of the group
- Original WG Mission Statement

“The Tool Investigation and Code Improvement WG focuses on application of tools, handling the tool results, and improving the kernel based on the tools’ feedback.”

- New WG Mission Statement

“The Tool Investigation and Code Improvement WG focuses on creation, analysis, and application of tools and techniques to contribute to the improvement of the kernel for use in safety cases.”

Current Activities – Engagement

- Working to increase external engagement
 - Working on blog posts, LinkedIn announcements, etc. to pull additional participants in
 - Trying to prioritize topics which help peoples *daily* work so they stay engagement
- Working to increase internal engagement
 - Setup meetings with vertical groups to discussion further areas of cooperation
 - Already supporting CI for several groups, but what else can we do?

Current Activities – Adopting Existing Tools

- **BASIL**
 - A tool developed to support Software Specification analysis and Testable Requirements definition
 - Development led by Luigi Pellecchia
- **ks-nav**
 - Assist developers and engineers in analyzing kernel source code, understanding function call trees, and generating informative diagrams.
 - Development led by Alessandro Carminati

2024 Activities

- Lots of potential topics!
- Static Analysis in Open Source SW
 - How should we approach it?
 - Do we (and if so how?) reconcile OSS coding standards with Certification coding standards
 - How can we contribute?
 - Contribute to clang-tidy / clang-format?
- Kernel testing
 - Can we contribute to kernel testing in a systematic way?
 - Translating runtime test to kunit tests
- Tool Qualification
 - What are the similarities/differences of Tool Qualification across industries?
 - How we do approach qualification of OSS tools?

Get Involved!

- Join our meetings!
 - 2nd Tuesday of the month @ 9:30 AM EST / 2:30 PM UTC
 - 4th Thursday of the month @ 11:00 AM EST / 4:00 PM UTC
- Hit the Mailing List!
 - <https://lists.elisa.tech/g/tool-investigation>
- Participate in our GitHub
 - Tools WG: <https://github.com/elisa-tech/wg-tools>
 - BASIL: <https://github.com/elisa-tech/BASIL>
 - ks-nav: <https://github.com/elisa-tech/ks-nav>