ELISA

Enabling Linux in Safety Applications

Making Penguins Fly

Presenters

Matthew Weber

Associate Technical Fellow @
The Boeing Company

Michael Monaghan

Software Engineer @
NASA Goddard Space Fight Center

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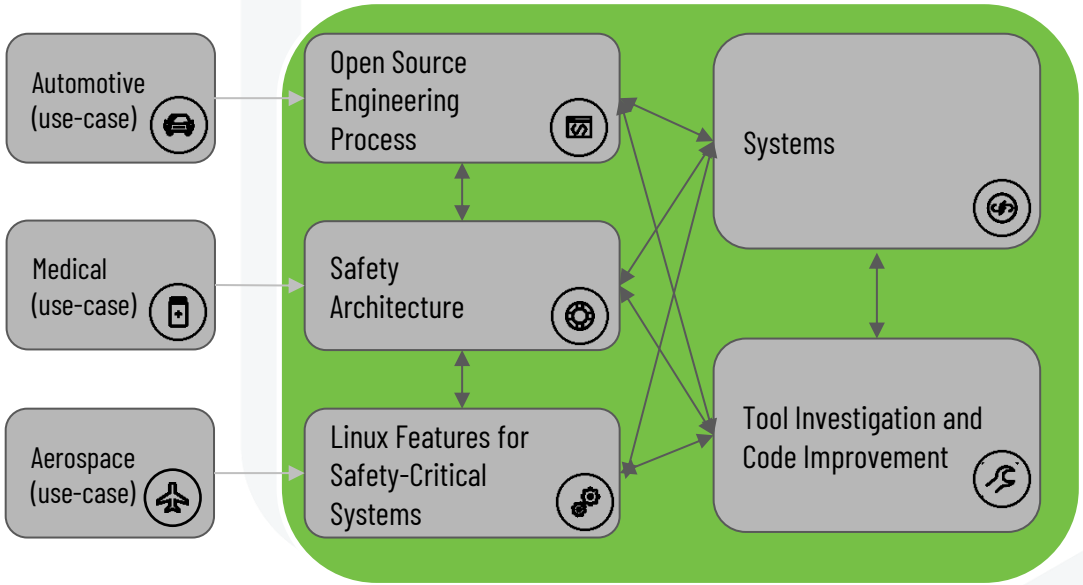
ADVANCING LINUX IN SAFETY-CRITICAL SYSTEMS

… aiming to make it easier for companies to build and certify Linux-based safety-critical systems whose failure could result in loss of human life, significant property damage or environmental damage.



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Aerospace Working Group

"… shall develop use cases to inform and influence Linux architecture and related tools, work to derive technical requirements for avionics operating systems, and seek to enhance and expand avionics software lifecycle processes, practices, and tools to enable use of Linux in avionics systems that are certified to high design assurance levels."

See our annual briefing for more 2024 details and plans for 2025

(Slides)
(Recordings)

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NASA Goddard Workshop

Hosted by our friends at NASA, we hosted the first in person meeting for the group with great success.

- Two day event
- Attendees: 30 in-person & 40 virtual
- 18 Talks & 20 Speakers
- Tour of NASA Facilities
- Some of the attending organizations: Red Hat, Bosch, NASA, Wind River, TelePIX, Sony, Linux Foundation

Link to workshop's content and video recordings

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NASA Goddard Workshop: Sessions

Title	Presenter(s)
Welcomes + Orientation	Michael, Philipp, Kate, Ramon
Space Grade Linux Intro	Michael Monaghan - NASA
Lessons from Automotive Grade Linux	Walt Miner - Linux Foundation
Linking external Test Results to Test Cases in BASIL to support pre existing test infrastructures	Luigi Pellecchia - Red Hat
How to use ks-nav for a feasible and meaningful test campaign in the Kernel	Alessandro Carminati - Red Hat
Verification and Validation of the OS and "certification package"	Scott Tashakkor - NASA
Test and Assurance of Non-Volatile Memory Devices for Space	Ted Wilcox - NASA
Linux Kernel Design Documentation	Gabriele Paoloni - Red Hat, Chuck Wolber, Kate Stewart - Linux Foundation
Space Grade Linux interest survey results	Kate Stewart, Ramon Roche - Linux Foundation
F prime	Michael Starch - NASA
Space ROS	Ivan Perez - NASA
cFS Overview Presentation	Richard Landau, Ashok Prajapati (NASA)
Investigating the Implementation of Linux-based Payload Computers: A Review of In-Orbit Demonstrations for Edge AI in Space Missions.	Dongshik Won - TelePIX Co., Ltd.
Container and immutable patterns for operating systems and workloads	Michael Epley, Tony James - Red Hat
Containerization in Space: Podman for Mission-Critical Operations and Resilience	Dan Walsh, Douglas Schilling Landgraf -Red Hat
Real Time Linux update	Steven Rostedt - Google
Building an OSS Ecosystem for Space	Tim Bird - Sony

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Where to start?

Join our call on the 3rd Thursday of each Month

Register here to receive a calendar invite
https://elisa.tech/community/meetings/

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Space Grade Linux (SGL)

Resources

- Community Repository: Meeting Minutes, and Schedule
- meta-sgl: Linux Distro repository
- Website: Landing Page with all the info on the SIG including the mailing list
- SGL Workshop Videos: YouTube Playlist with all the videos from the first Workshop at Goddard Space Flight Center
- Aerospace WG website (mailing list / meetings)

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Thank you for attending!