

## ***EE/CprE/SE 491 WEEKLY REPORT 1***

***Start Date – End Date: 01/23/2024 - 02/06/2024***

***Group number: 9***

***Project title: Multicore Operational Analysis Tooling***

***Client &/Advisor: Steve Vanderleest/Joe Zambreno***

***Team Members/Role: Alexander Bashara – Embedded Engineer, Joseph Dicklin – Hardware Design Engineer, Hankel Haldin – OS/Tooling Engineer, Anthony Manschula – Project Coordinator/Engineer***

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**Weekly Summary:** The team participated in the kickoff meeting with Boeing on 02/02/2024, in which some introductory details of the project were discussed. We identified action items to report on in the next meeting on 02/09/2024, including hardware platform selection, general schedule of deliverables for the project, adding the Boeing reps to the GitLab repo, and selecting a platform for workload management.

**Past week accomplishments:** As the initial kickoff meeting occurred on February 2nd, the hardware selection component was really the only major point the team could tackle. Boeing has stated that their desired platform should be a multicore ARMv8-based SBC. The team has collectively identified a few potentially viable options, and will be running these by Steve and his colleagues in the next meeting:

- Nvidia Jetson Nano
- Raspberry Pi
- HiKey 960

The large issue is finding reliable information on Xen Hypervisor support for the desired architecture, as we will be running Linux instances under Xen, and having good hardware support is critical to efficiently complete this project. Additionally, Anthony has coordinated with the GitLab repo manager to grant Steve and his colleagues' access to our repository.

### **Pending issues:**

- Select & order hardware platform.
- Confirm Boeing can access the project's GitLab repository.
- Determine workload management platform (i.e., GitLab board, Trello).

**Individual contributions:**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Alexander Bashara	Hardware research	3	3
Joseph Dicklin	Hardware research	3	3
Hankel Haldin	Hardware research	3	3
Anthony Manschula	Hardware research	3	3

**Plans for the upcoming week:**

- Prepare a list of hardware platforms to present to Boeing.
- Prepare a schedule / outline of deliverables for senior design (i.e., reports, presentations)
  - Deadlines for hardware selection, receiving board, etc.
- Hank: Prepare a set of slides for this week's meeting.
  - Research existing open-source tooling (after choosing hardware)
  - Cache coloring, cache thrashers, etc.

**Summary of weekly advisor meeting:** During this report period, we had our first advisor meeting on 2/2. We went through the project expectations, talked about what was expected for a deliverable, and created action items for the week. We asked them questions about what was expected and the project's goals and use case so we can better tailor the project to Boeing's needs.