

## ***EE/CprE/SE 491 WEEKLY REPORT 4***

***Start Date – End Date: 02/20/2024 - 02/27/2024***

***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:**

This week, the team spent a significant amount of time on hardware bringup. We were primarily focused on getting Xen running on our Raspberry Pi 4 but were faced with limited success. During our meeting with our Boeing advisor, we were recommended an alternative primary hardware platform that may afford us more success in initial setup. Additionally, we also dedicated some time to getting a second platform up and running.

### **Past week accomplishments:**

Much of this week's effort was focused on installing Xen on the Raspberry Pi 4. Our first attempt was building the Xen project from source using the instructions included in the root of their GitHub repository. Ultimately, this was unsuccessful due to the Raspberry pi's proprietary boot loader. A second attempt to install Xen on the Raspberry Pi 4 using the DornerWorks Raspberry Pi 4 builder script we found during our initial research. This was also unsuccessful. The team communicated our difficulties with the client, and they suggested we use a RockPro 64, which was one of our original hardware choices. We also acquired a Diligent ZedBoard from ETG, which has an APSoC with an ARM subsystem, and are trying to get that platform set up while we wait for our new primary platform to come in.

### **Pending issues:**

Who	What	When (target)
ISU	Provide Boeing with a detailed 2-semester timeline including mid-1 <sup>st</sup> -semester goal breakdown	2/23/2024
ISU	Order new hardware platform (RockPro64)	2/25/2024
ISU	Build Xen image for RockPro64	3/3/2024

### **Individual contributions:**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Alexander Bashara	Zedboard bringup and Research	4	25
Joseph Dicklin	Research Linux & Xen architecture	5	26
Hankel Haldin	Interference Mode /Research	4	25
Anthony Manschula	Xen installation and research	11	32

**Plans for the upcoming week:**

- Order alternative hardware platform from ETG (RockPro 64)
  - Prepare environment to facilitate quick setup once acquired
- Explore behavior of Xen in a VM to understand what can be done when Xen is functional on our hardware platform

**Summary of weekly advisor meeting:** During our meeting with our Boeing advisor, we were recommended an alternative primary hardware platform that may afford us more success in initial setup.