

EE/CprE/SE 491 WEEKLY REPORT 3

Start Date – End Date: 02/14/2024 - 02/20/2024

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

Weekly Summary:

The team participated in our weekly Boeing meeting on Friday which provided us with project schedule guidance, performance metrics to test for, and additional action items to complete this week. The team has decided to avoid pursuing the HiKey 960 board in favor of something more easily attainable. We have also favored hardware that will let us begin testing/image building as soon as possible. The team has done some preliminary work in preparing the Pi to build and install Xen, such as getting an applicable OS installed, as well as all the necessary dependencies to build it from source.

Past week accomplishments:

This past week the team was able to get its hands on a RaspBerry Pi 4 B. Ultimately Boeing recommended this platform due to its existing Xen support. We installed Ubuntu on the pi as well as the necessary dependencies for the xen-rpi-4-builder repository. We also met with Dr. Zambreno to determine our project's funding. Dr. Zambreno also suggested we contact ETG to determine what SBCs are available, so we now have a good idea of what platforms are available to us and which ones will likely be a good fit for our project's needs. In addition to our work setting up our environment, we also spent more time clarifying what Boeing wants out of our project in our weekly meeting.

Pending issues:

Who	What	When (target)
ISU	Provide Boeing with a detailed 2-semester timeline including mid-1 st -semester goal breakdown	2/16/2024
ISU	Gather Raspberry Pi 4 hardware documentation	2/16/2024
ISU	Order backup hardware platform (HiKey 960 / 970) if necessary	2/18/2024

ISU	Build an image for Raspberry Pi 4	2/28/2024
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Individual contributions:

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Alexander Bashara	Pi bringup	6	21
Joseph Dicklin	Project funding, Pi bringup	6	21
Hankel Haldin	Pi bringup	6	21
Anthony Manschula	Pi bringup, research	6	21

Plans for the upcoming week:

- Build Xen image on Pi 4
- Work on compiling a detailed list of tasks that the team will be working on as we move into March and April
 - Goal is to parallelize a lot of this work
- Research Interference modes discussed with Boeing

Summary of weekly advisor meeting: We met with Dr. Zambreno and our Boeing contacts. During the meeting with Dr. Zambreno, we discussed funding for our project as well as discussed the scope of our project and what we wanted to get out of it. During the meeting with Boeing, we discussed our hardware selection in detail, as well as the next steps to get Xen built and running on our Raspberry Pi. We also discussed pending action items and addressed any tasks that Boeing requested we investigate.