Project Proposal

Research Track - Hypervisors and Virtualization

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Overview and Deliverables

We want to dive deep into understanding hypervisors. Starting with the history of hypervisors, use cases for them, and how they interact with the host machine's resources. For our analysis we would like to discuss the differences in type 1 vs type 2 hypervisors and why a user would prefer one over the other. With an ending discussion of virtualization today and future analyses or improvements. The Technical report will be the final deliverable.

Division of Labor

All - As we are all collaboratively working on the same paper, and considering the tools we have at our disposal, all group members will be responsible for writing and documenting in each section of the actual project report. For equal distribution of labor it would seem sensible to fork our research into four sections that are analyzable. In this way group members also have the freedom to work at their own pace, and inconvenient situations do not arise where, for example, a "paper editor" is waiting for a "researcher" to finish their work before being able to contribute to the project. The different forks of each member's research focus will be described below.

Each group member will spend time learning about hypervisors. This will be divided by parts history, interaction with OS, types of hypervisors, and future of virtualization. At the end of week 11 all team members will come together and have a discussion of what they learned and lay out a plan of how our paper will be outlined.

Schedule

Week 11 - Outline technical report and learning/researching about hypervisors.

Week 12 - Group members will start contributing to the research paper, which will be a Latex Document shared on Overleaf. The overall construct can be rough draft at this point, but practically all of the important content and research should be documented.

Early Week 13 - Group members will proofread and make edits to the **<u>entire</u>** research paper. The combined efforts of the group should yield an extremely polished research paper, ready to turn in.

Late Week 13 - The video will be recorded, and any retroactive changes to the research paper will be made if discovered.

Desired outcome
Our goal is to gain a deep understanding of virtualization by studying hypervisor history, how hypervisors interact with host machines, how the types of hypervisors differ, and what the future of virtualization might look like.