Container Isolation Project Overview

**How do we characterize the degree of isolation containers provide?**

For virtual machines or containers to be isolated two VMs or containers sharing the same hardware should not be able to interfere or impact each other's operation/performance. If perfectly isolated, then no matter what container A does, there will be no discernible impact on container B if both container A and B are hosted on the same physical server.

Quantification of isolation can be decomposed into categories including: CPU isolation, disk I/O isolation, memory isolation, network isolation, and data security. Quantifying isolation involves measuring and quantifying the degree of isolation provided for the VM and container technologies independently for each resource category.

**What are the existing approaches for measuring / quantifying container isolation?**

**How do these approaches excel? What is good about them? (e.g. easy to install, cross-platform, etc.)**

**How well do they perform with respect to measuring the categories listed above (e.g. CPU isolation, data security, etc.)**

**What is lacking of the existing approaches?**

**Can the existing approaches quantify isolation for both VMs and containers?**

**Are there good examples where isolation has been quantified for a variety of VM and container types?**