### Materials
- This project utilized six Dell PowerEdge 860 Servers, each with 4 GB of RAM and a dual-core Intel Xeon 3050 processor
- Two of the servers, which would be used for storage, were equipped with two 750 GB Hard Drives
- The other four servers, which were the actual systems used for benchmarking, were given 80 GB Hard Drive of the same type and generation
- Other devices used in this test were a Dell Vostro 220 running Ubuntu Desktop, a desktop for Windows 10, and a Cisco router and switch

### Extra Servers
- The two servers with 750 GB Hard Drive would be used for storage
- One of the servers would be the target for the network
- Each hypervisor has access to a single target and LUN of 100 GB, where the virtual machine’s drives will be stored
- Two other storage shares would be for ISO images, one with SMB and the other with NFS

### Guest Operating Systems
- Two operating systems were chosen to be the guests due to the potential speed boost from Paravirtualization on various hypervisors
- Windows and CentOS

### Benchmarks
- There will be several benchmarks run on each guest system, each repeated three times with a minute pause between the cycle of tests
- Each will be given a 10 GB hard drive and 1 GB of RAM when making the tests

### Methods
- Two operating systems were chosen to be the guests due to the potential speed boost from Paravirtualization on various hypervisors
- Windows and CentOS

### Current Results
- The project is currently in the process of being completed, but here are some results so far:
  - The control case was made irrelevant after a later issue with one of HyperV’s disk that hosts the drives of its VMs, which HyperV requires to operate
  - Windows drops the iSCSI connection that hosts the hard drives of its VMs or random system, sometimes causing massive issues
  - Promotions is currently experiencing an issue where the Debian machine will not remount the root disk as read-only in the middle of the disk test, mostly likely caused by the thin provisioning that Promotions uses by default

### Expected Results
- When the tests are completed, they are expected to show CentOS performing better on XenServer, while Debian performs better on Promotions due to performed optimizations
- XenServer is expected to win the overall speed tests due to its extensive optimizations

### Conclusion So Far
- Do not use ancient dual core CPUs to test virtualization
- Debian was not the ideal choice for benchmarking. Ubuntu is much more popular operating system, and is much more used in production

### References
- HyperV
  - Windows - https://www.microsoft.com
For additional information please contact:
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Or visit https://github.com/ptekh/hypervisor-comparison/