

Virtual Machine Advantages

- Move whole images anywhere: completely decouple all software from hardware
- Can replicate computer images: run more copies
 - If your service is overloaded, scale out by spinning up more instances
- Can arbitrarily start/stop/resume instances very quickly
 - Must faster than shutting down machines
- Complete software encapsulation
 - Common technique used in software tutorials: download this VM image and run it
 - Web hosting: one server can run 100 virtual machines, each one thinks it has a complete, independent computer to configure and use
- Complete software isolation
 - In theory, two VMs are completely isolated, can maybe only sense something due to timing (e.g., if they are sharing a CPU), more on this later
- Enabled us to have cloud computing
 - Original business case was the desktop! E.g., need to run Windows and Linux in parallel, don't want 2 machines.