IT 3300: Virtualization

Memory Stuff

Memory

When a VM is first created, it is allocated a fixed amount of memory. To improve the utilisation of physical memory in your XenServer environment, you can use Dynamic Memory Control (DMC), a memory management feature that enables dynamic reallocation of memory between VMs.

Memory (Dynamic Memory control)

- Memory can be added or removed without restart
- When servers are full, we can start more VM’s on the servers, which will automatically reduce mem on VMs running.

Memory (Dynamic Memory control)

DMC adjusts memory of running vms. Keeping mem between min and max values. Without this, if server is full, will result in out-of-memory errors, which will not allow new vms to start.

Memory (Dynamic Memory control)

Many host os’s don’t understand Dynamic memory, so xen will declare the max amt of memory to a vm at boot time. (Host can size paging tables and other memory stuff accordingly). For a particular boot then, the memory range is static and cannot be changed without a powercycle of vm.

Memory (Dynamic Memory control)

- Automatic vm squeezing
- When hosts memory is plentiful - all running vms will recieve dynamic max level
- when host mem is scarce - all running vms will receive dynamic min level