**IT 3300 : Virtualization**

**vCenter Server**

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**Terms Revisited**

- vSphere = software suite
  - ESXi (type 1 hypervisor)
  - vCenter - centralized management app
  - vSphere client - client to esxi management
  - etc...

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**What is vCenter?**

It is a utility that we can use to manage our ESXi instances.

- migration
- templates
- clones
- etc ...

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**Details**

After installing ESXi, we can manage our host using the “Embedded Host Client”

Designed to replace the windows-centric management app. (vSphere legacy client)

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**Details**

You can install vCenter Server on a physical system or on a virtual machine running on an ESXi host.

- Could install on Windows Physical or Virtual machine
- As an alternative to installing vCenter Server on a Windows virtual machine or physical server, you can deploy the vCenter Server Appliance.

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**Details**

All administrative functions are available through the vSphere Web Client. The vSphere Web Client is a cross platform application that can connect only to vCenter Server. It has a full range of administrative functionality and an extensible plug-in-based architecture. Typical users are virtual infrastructure administrators, help desk, network operations center operators, and virtual machine owners. Users can use the vSphere Web Client to access vCenter Server through a Web browser. The vSphere Web Client uses the VMware API to mediate the communication between the browser and the vCenter Server.

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**Easy way to install**

- Use the script found [here](#) (only from on-campus)
- begin by obtaining VMware-VCSA-all-6.0.0-3634788.iso
  - You can scp this from [vm.cs.dixie.edu:/qemu/iso/](#) directory.
- put in Downloads
- mkdir tempdir
- sudo mount -o loop VMware-VCSA-all-6.0.0-3634788.iso tempdir

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**First Screen**
VCenter related items

- Database:
  - Most crucial component of the architecture; storing:
    - security roles,
    - inventory items,
    - resource pools,
    - perf data,
  - Supported databases are:
    - Oracle
    - MSSQL
    - vPostgres (included with the VCSA)

VCenter related items

- SSO for authentication
- vSphere inventory service
  - manages web client inventory objects (tags)
  - tags can be useful in large environments to find vms, data stores, clusters, etc...
- Managed Hosts
  - these are enabled by vCenter Server to manage ESXi hosts as well as the VM’s installed on them.
- Web Client (of course)

VCenter architecture review (from text)
VCenter Communication

- VMware Virtual Server or vpxd is the main service on VCenter Server
- When hosts are added to VCS, an agent called vpxa is installed and runs on the ESXi hosts.
- vpxd relays commands to vpxa, vpxa relays commands to a `hostd` process. `hostd` does most of the work (ie. creating vms)

VCenter Communication Continued

- When a command is issued, on VCS, it also updates the db.
- VMs are still running even if VCS crashes, but some other advanced features might not be available.
- If we connect directly to the ESXi host the db isn’t updated... so we should always try to use VCS.