

Lab 3: Systems Administration

CNIT 24200-LabSection006

Group 22

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EXECUTIVE SUMMARY

The primary goals of this project were to implement and configure VMware ESXi Server on the existing Active Directory Domain, perform several Physical to Virtual conversions on the servers, and create several datastores to allow for remote access to files. Doing so allowed for increased functionality as several VMs could run on a single machine and the ESXi server was accessible remotely through a web client. The project was a success, but several problems were encountered along the way, the most time consuming being freezing while installing VMware VCenter, which will be detailed in Appendix A of this report along with the other issues faced during the course of the project. Because of the issues faced during this project, it is recommended that plenty of time be given to complete installations of VCenter, as well as when moving VMs with vMotion, as they could each take several hours to complete, and even then may not be successful. The Business Scenario will detail the reasons for this project, while the Procedures section will detail the steps taken in order to fulfill the business scenario's requirements.

BUSINESS SCENARIO

ServerTech, a growing business start-up is looking to implement the virtualization of their servers. Virtualization of servers allows each server to have multiple virtual machines where each virtual machine can have a different application such as being able to operate in Linux, Microsoft Windows or MacOS. Without virtualization, each individual server is limited to having only one application. The reason ServerTech wants to make this transition is for the reduced hardware costs and reduced energy consumption from fewer servers needed for applications, improved disaster recovery ability, better productivity due to fewer physical servers required and the decrease of server downtime from minimizing the maintenance required. Before implementing the virtualization, ServerTech was required to have 3 functioning domain controllers connected to a forest domain. In order to virtualize the enterprise, it was necessary to demote one of the child domain controllers to install the VMware's ESXi Server Version 6.7 on the machine. Then ServerTech were able to migrate any virtual machines on the other domain controllers to the ESXi server using the static IP assigned to it. To increase the productivity and disaster recovery ability the company installed a second ESXi server on the forest domain controller so it could possess the ability to clone the virtual machines and migrate them to one another if one of the servers goes down or requires maintenance. For the ease of management of the ESXi servers and virtual machines, VMware vCenter Server Virtual Appliance instance was installed and had the virtual machines migrated to it using vMotion. ServerTech also created and configured two local datastores on each of the two ESXi servers, as well as configuring the ESXi servers to use a SAN (Storage Area Network) datastore by accessing an iSCSI (internet Small Computer Systems Interface) logical drive formatted as a VMFS (VMware File System) datastore. Lastly, ServerTech installed VMware Tools on all the virtual machines on the ESXi

servers.

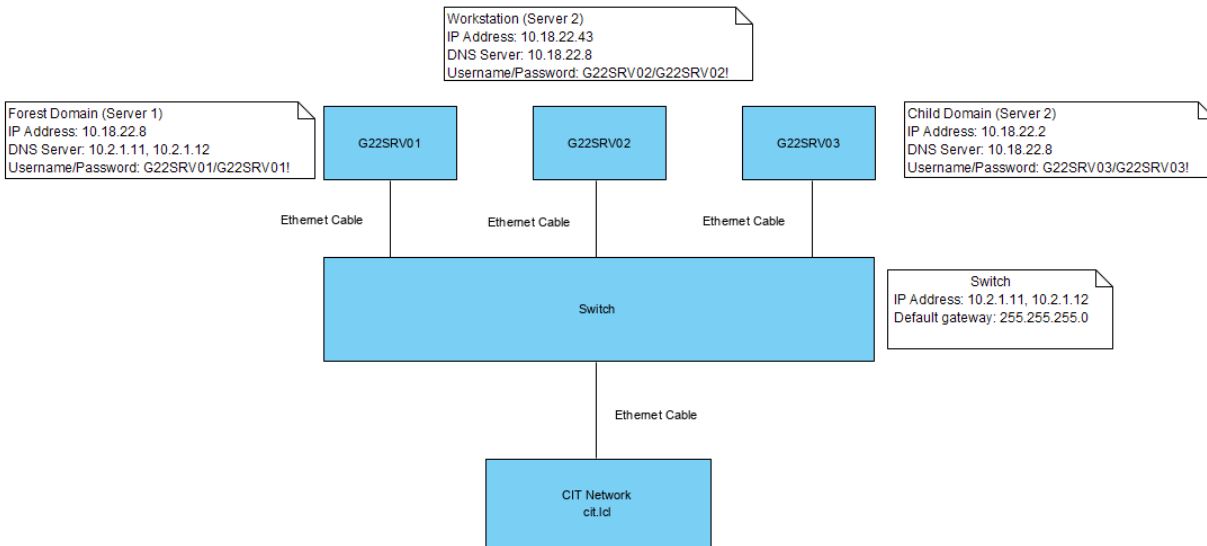


Figure 1: Pre-Lab Physical Network Diagram

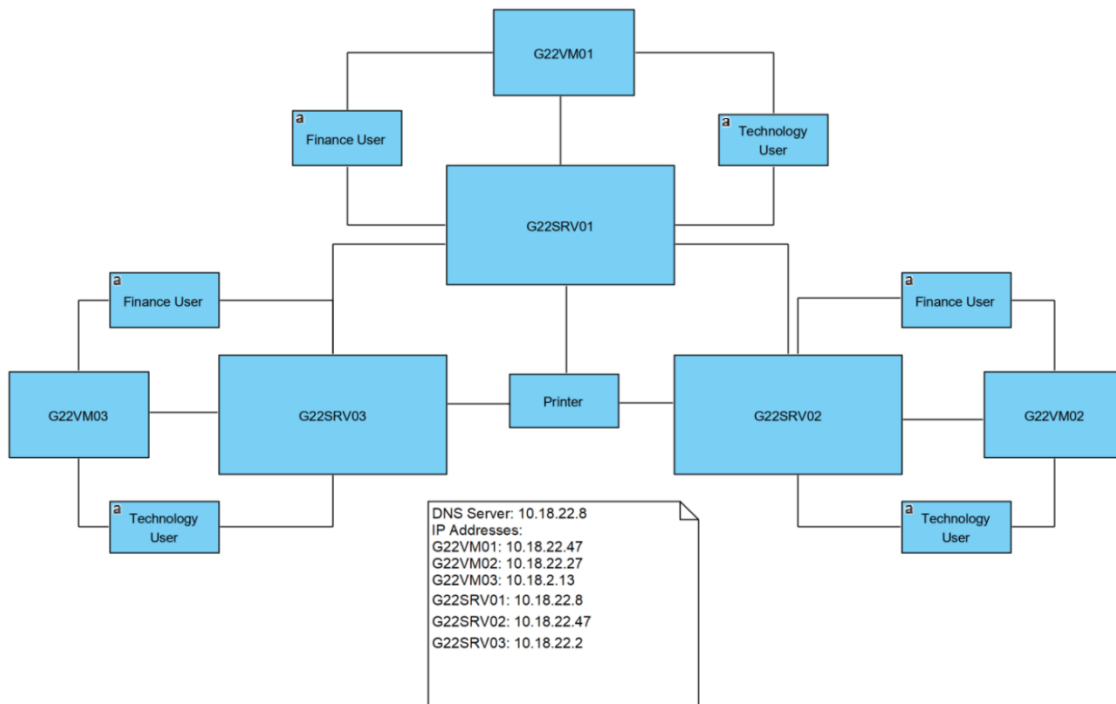


Figure 2: Pre-Lab Logical Network Diagram

PROCEDURE

This procedure phase is separated by the list of tasks shown chronologically in the check off sheet for server one. Most procedure tasks are followed on every machine. The text entered are italicized, buttons are underlined, texts displayed inside quotation marks, physical buttons are bolded, and menu tree/continuous button navigation are formatted | in between menus.

Demoting Server 02 Domain Controller to a non-Active Directory server

1. Navigated to *//rtfm.cit.lcl*
2. Selected ISO | VMware | Converter
3. The install wizard will run, clicked Next several times
4. Selected Local machine
5. Selected Finish

Installing ESXi on Server 02

1. Obtained ESXi stick from TA
2. Plugged it into Server 02
3. Restarted machine
4. Pressed **F12** when machine was starting up to access boot options
5. Selected USB storage and pressed **Enter**
6. Selected Other OS and Tools and pressed **Enter**
7. Choose “ESXi -6.7.0-20180704001-NET_DRIVERS_MODIFIED_FOR_05060” and pressed enter

8. Allowed computer to run autoboot
9. Pressed **Enter** on the welcome screen
10. Pressed **F11** to Accept and Continue for the EULA
11. Choose “Local Disk ATA HGST_HTS721010A9E630” with 931.51 GiB Capacity to install on and pressed Enter
12. Chose “US Default” for keyboard and enter
13. Entered root password: *g22srv2!* And confirmed it and pressed **Enter**
14. Pressed **F11** to install ESXi 6.7.0
15. Removed ESXi USB stick
16. Pressed **Enter** to Reboot
17. Pressed **F2** to customize system/view logs
18. Entered password for root
19. Selected Configure management network | IPv4 Configuration
20. Set “Static IPv4 address and network configuration”
21. Entered the following information:

Table 1: IP configuration for ESXi Server 2

IP Address	<i>10.18.22.25</i>
Subnet Mask	<i>255.255.255.0</i>
Default Gateway	<i>10.18.22.1</i>

22. Selected “DNS Configuration”

- a. Selected “Use the following DNS server address and hostname” then pressed **Spacebar**
- b. Navigated down to “Primary DNS” server and entered the following for the Primary DNS server and hostname:

Table 2: DNS & Hostname configuration for ESXi Server 2

Primary DNS Server	<i>10.18.22.8</i>
Hostname	<i>Group22SRV02</i>

23. **Esc** to exit and **Y** to apply changes and restart management network and Pressed **Esc** to logout

Migrate Workstation’s VM to ESXi Server Group22SRV02 (P-to-V)

1. Installed vCenter VMware Converter from `\\rtfm.cit.lcl\iso\vmware\vmcenter`
2. Opened VMware vCenter Converter Standalone
3. Clicked on Convert machine
4. Selected “Source type” to Powered on for the check box
5. Selected This local machine for the dropdown menu
6. Selected destination type to VMware Infrastructure virtual machine
7. Entered:
 - a. Server: *10.18.22.25*
 - b. Username: *root*

8. Under the “Options” menu
 - a. Clicked on “Data” to copy and changed the C drive size to “400 GB” and clicked on Advanced and changed Type/Cluster size for VirtualDisk1 to “Thin” from “Thick”
 - b. Clicked on Devices and changed the Memory to 8 GB and under the Other tab changed cores to 2
9. Rebooted machine

Migrate Server 01’s VM to ESXi Server Group22SRV02 (P-to-V)

1. Installed vCenter VMware Converter from `\\rtfm.cit.lcl\iso\vmware\vmcenter`
2. Opened VMware vCenter Converter Standalone
3. Clicked on Convert machine
4. Selected “Source type” to Powered on for the check box
5. Selected This local machine for the dropdown menu
6. Selected destination type to VMware Infrastructure virtual machine
7. Entered:
 - a. Server: *10.18.22.27*
 - b. Username: *root*
8. Under the “Options” menu
 - a. Clicked on “Data” to copy and changed the C drive size to “400 GB” and clicked on Advanced and changed Type/Cluster size for VirtualDisk1 to “Thin” from “Thick”

- b. Clicked on Devices and changed the Memory to 4 GB and under the Other tab changed cores to 2
9. Rebooted machine

Installing ESXi Server on Group 22 Server 01

1. Obtained ESXi stick from TA
2. Plugged it into Server 02
3. Restarted machine
4. Pressed **F12** when machine was starting up to access boot options
5. Selected USB storage and pressed **Enter**
6. Selected Other OS and Tools and pressed **Enter**
7. Choose “ESXi -6.7.0-20180704001-NET_DRIVERS_MODIFIED_FOR_05060” and pressed enter
8. Allowed computer to run autoboot
9. Pressed **Enter** on the welcome screen
10. Pressed **F11** to Accept and Continue for the EULA
11. Choose “Local Disk ATA HGST_HTS721010A9E630” with 931.51 GiB Capacity to install on and pressed Enter
12. Chose “US Default” for keyboard and enter
13. Entered root password: *g22srv2!* And confirmed it and pressed **Enter**
14. Pressed **F11** to install ESXi 6.7.0
15. Removed ESXi USB stick
16. Pressed **Enter** to Reboot

17. Pressed **F2** to customize system/view logs
18. Entered password for root
19. Selected Configure management network | IPv4 Configuration
20. Set “Static IPv4 address and network configuration”
21. Entered the following information:

Table 3: IP configuration for ESXi Server 1

IP Address	<i>10.18.22.27</i>
Subnet Mask	<i>255.255.255.0</i>
Default Gateway	<i>10.18.22.1</i>

22. Selected “DNS Configuration”
 - a. Selected “Use the following DNS server address and hostname” then pressed

Spacebar

Table 4: DNS & Hostname configuration for ESXi Server 1

Primary DNS Server	<i>10.18.22.8</i>
Hostname	<i>Group22SRV01</i>

23. **Esc** to exit and **Y** to apply changes and restart management network and Pressed **Esc** to
logout

Taking snapshot of SRV1 & SRV3 VMs on ESXi server

1. Opened browser on personal computer
2. Navigated to *http://10.18.22.25/*
3. Logged in with “Username” *root* and ESXi Server02 password
4. Selected “Navigator” then “Virtual machines”
5. Clicked Checkbox on the left of Virtual machine “G22SRV01.group22.c24200.cit.lcl”
6. Clicked on the Actions available for selected virtual machines
7. Select Snapshots then Take snapshot
8. Wrote in “Name” *First Snapshot for SRV01 VM* then clicked Take snapshot
9. Clicked checkbox on the left of Virtual Machine “G22SVR03.c242-22-a.group22.c24200.cit.lcl”
10. Clicked on the Actions available for selected virtual machines
11. Select Snapshots then Take snapshot
12. Wrote in “Name” *First Snapshot for SRV03 VM” then clicked Take snapshot*

Configuring Network Settings on SRV01 VM

1. Selected “G22SRV01.group22.c24200.cit.lcl” VM by clicking the box to the left of it
2. Clicked Power on
3. After loading logged into with SRV01 VM credentials
4. Right clicked Network icon on the Windows taskbar
5. Selected Actions | Guest OS | Send Keys | Ctrl-Alt-Delete
6. Right Clicked Ethernet0 and selected Properties
7. Clicked Internet Protocol Version 4 (TCP/IPv4) and selected Properties
8. Selected Use the following IP address and entered the following:

Table 5: Network configuration for Server 1's VM

IP Address	<i>10.18.22.26</i>
Subnet Mask	<i>255.255.255.0</i>
Default Gateway	<i>10.18.22.1</i>
Preferred DNS Server	<i>10.2.1.11</i>

Configuring Network Settings on SRV03 VM

1. Selected "G22SRV03.c242-22-a.group22.c24200.cit.lcl" VM by clicking the box to the left of it
2. Clicked Power on
3. After loading logged into with SRV03 VM credentials
4. Right clicked Network icon on the Windows taskbar
5. Selected Actions | Guest OS | Send Keys | Ctrl-Alt-Delete
6. Right Clicked Ethernet0 and selected Properties
7. Clicked Internet Protocol Version 4 (TCP/IPv4) and selected Properties
8. Selected Use the following IP address and entered the following:

IP Address	<i>10.18.22.28</i>
Subnet Mask	<i>255.255.255.0</i>

Default Gateway	<i>10.18.22.1</i>
Preferred DNS Server	<i>10.18.22.8</i>

Table 6: Network Configuration for Server 3's VM

Installing and Configuring VMware vCenter Server on Group 22 SRV01 Stage 1

1. Went to *10.18.22.25* on browser
2. Clicked on VM Group22SRV01.group22.c24200.cit.lcl
3. Went to “File Explorer” and browsed *\\rtfm.cit.lcl*
 - Navigated to ISO | VMware | vCenter | 6.7 | VMware-VCSA-all-6.7.0-8217866.
4. Right clicked VMware-VCSA-all-6.7.0-8217866 and clicked on Mount
5. After a pop-up, went to vsca-ui-installer | win32 | installer
6. Clicked on Install | Next | Accept license agreement | Next | vCenter Server with an Embedded Platform Services Controller
7. Typed in:
 - IP Address: *10.18.22.27*
 - Port: *443*
 - Username: *root*
8. Clicked Yes on the Certificate warning
9. Set and confirmed root password to *G22srv1!*
10. In the “Select deployment size” menu, selected Tiny for deployment size and Large for “Storage size”

11. In the “Select Datastore” menu, checked “Install on an existing datastore accessible from the target host” and selected datastore 1 and checked off “Enable Thin Disk Mode”
12. In the “Configure Network Settings” menu typed in:

Table 7: Network configuration for Server 1 vCenter

Network	<i>VM Network</i>
IP version	<i>IPv4</i>
IP assignment	<i>Static</i>
IP address	<i>10.18.22.29</i>
Subnet mask or prefix length	<i>255.255.255.0</i>
Default gateway	<i>10.18.22.1</i>
DNS Servers	<i>10.2.1.11</i>
HTTP	<i>80</i>
HTTPS	<i>443</i>

Installing and Configuring VMware vCenter Server on Group 22 SRV01 Stage 2

1. Clicked on Continue to start Stage 2

2. In the “Time synchronization mode” dropdown menu, selected Synchronize time with NTP servers
3. “For NTP servers (comma-separated list)”, typed *tick.cit.lcl,tock.cit.lcl*
4. Selected Enabled for SSH access and clicked Next
5. In the “SSO Configuration” menu, checked “Create a new SSO domain” and typed in:

Table 8: Single-Sign On configuration for Server 1 vCenter

Single Sign-On domain name	<i>vsphere.local</i>
Single Sign-On username	<i>administrator</i>
Single Sign-On password	<i>G22srv1!</i>
Confirm password	<i>G22srv1!</i>

6. In the “Configure CEIP” menu, unchecked the “Join the VMware’s Customer Experience Improvement Program (CEIP)” checkbox and clicked Next
7. Clicked on Finish to complete Stage 2
8. Went to *10.18.22.39* and typed:
 - a. Username: *administrator@vsphere.local*
 - b. Password: *G22srv1!*
9. Clicked on the dropdown Menu | Administration | Single Sign On | Administration
10. Clicked on Active Directory Domain | Join AD
11. Typed:

Domain	<i>group22.c24200.cit.lcl</i>
Organizational Unit	<i>None</i>
Username	<i>Administrator</i>
Password	<i>G22srv1!</i>

12. Rebooted vCenter Server Appliance by pressing **F11**

Uploading Windows 10 VM from domain controllers

1. Went to *10.18.22.25* (Server02) on browser
2. Clicked on Datastore | Upload
3. Went to File Explorer and searched: *rtfm.cit.lcl* | ISO | Windows | Client | Old Windows |
EN_WINDOWS_10_ENTERPRISE_X64_DVD_6851151
4. Went back to EXSi Server02 and clicked on Virtual Machines | Create VM | Next
 - a. Entered *Win10A* and *Win 10B* (Repeat on separate iterations)
 - b. Clicked on Compatibility and selected ESXi 6.7 Virtual Machine
 - c. Clicked on Guest OS Family and selected Windows
 - d. Clicked on GuestOS Version and selected Microsoft Windows 10 (64bit)
 - e. On the next screen, selected datastore1 and clicked Next
 - f. Went to Customized Settings | CD/DVD Drive and selected Datastore ISO file
and uploaded “EN_WINDOWS_10_ENTERPRISE_X64_DVD_6851151”
5. Repeated once until Step 4 by only changing the Windows name (Win10A/Win10B)
6. Powered on Win10A and Win10B
 - a. Selected Install Now | Selected Custom Installation

- b. Selected original partition and clicked Next
- c. When prompted for computer name and password, entered *Travis* for Win10A and *Brandon* for Win10B and *G22srv1!* for password
- d. Right clicked Network icon on Windows taskbar
 - i. Went to Network and Sharing Center | Change adapter settings
 - ii. Right clicked Local Area Connection and selected Properties
 - iii. Double clicked on IPv4 and clicked Use the following IP address
 - iv. Configured IP address:

Table 9: Windows Client Network Configuration

	Win10A (Travis)	Win10B (Brandon)
IP address	<i>10.18.22.32</i>	<i>10.18.22.31</i>
Subnet mask	<i>255.255.255.0</i>	<i>255.255.255.0</i>
Default gateway	<i>10.18.22.1</i>	<i>10.18.22.1</i>
Preferred DNS Server	<i>10.2.1.11</i> <i>10.2.1.12</i>	<i>10.2.1.11</i> <i>10.2.1.12</i>

7. Repeated Steps 6.d on non-configured VM

Configuring local datastore for Server 01

1. Went to *10.18.22.27* on web browser
2. Selected Storage | datastore1 | Actions | Rename
 - a. Typed *Group22SRVDS01-1* and selected Save
3. Clicked New datastore | Select Creation Type | Create new VMFS datastore | Next
 - a. In the “Select device” menu, typed *Group22SRVDS01-2*
 - b. Selected Local ATA Disk and left other settings
 - c. Clicked Yes when prompted for confirmation

Configuring local datastore for Server02

1. Went to *10.18.22.25* on web browser
2. Selected Storage | datastore1 | Actions | Rename
 - a. Typed *Group22SRVDS02-1* and selected Save
3. Clicked New datastore | Select Creation Type | Create new VMFS datastore | Next
 - a. In the “Select device” menu, typed *Group22SRVDS02-2*
 - b. Selected Local ATA Disk and left other settings
 - c. Clicked Yes when prompted for confirmation

Configuring SAN datastore

1. Went to *10.18.22.25* (Server02)
2. Clicked on Network | Add port group
 - a. Entered *iSCSI* for “Name” of new port group
 - b. Entered *1850* for “VLAN ID” of new port group
3. Clicked on VMkernel NICs | Add VMkernel NIC

- a. Under the port group dropdown selected iSCSI
 - b. Selected Static IPv4 address settings
 - i. Expanded IPv4 settings and Typed:
 - ii. IP address: *192.168.52.122*
 - iii. Subnet mask: *255.255.255.0*
4. Clicked Storage | Adapters | Configure iSCSI
 - a. Selected Enabled for radio button
 - b. Selected Add port binding | vmk1
 - c. Selected Add dynamic target
 - i. Typed IP address *192.168.52.1*
 - ii. Clicked Save configuration
5. Clicked Datastores | New datastore | Select Creation Type | Create new VMFS datastore
 - a. Entered name: *iSCSI*
 - b. Selected FreeNAS iSCSI Disk
 - c. Left the other settings to default
 - d. Selected Yes when prompted for confirmation
6. Repeated steps 1 – 5 on Server 01, 10.18.33.27 and changing the IP address to 192.158.52.123 for VMkernel NICs.

Migrating Virtual Machines

1. Went to *10.18.22.29* (vCenter)
2. Selected Actions | New Datacenter
 - a. Typed *GROUP22* for datacenter name and clicked Ok

3. Clicked GROUP22 on side bar
 - a. Went to Actions | New cluster
 - b. Typed *group22cluster* for cluster name and clicked Ok
4. Clicked group22cluster on side bar
 - a. Went to Actions | Add host
 - b. Typed:
 - i. IP Address: *10.18.22.27* (Server 01)
 - ii. Username: *root*
 - iii. Password: *G22srv1!*
 - c. Clicked Yes when security pop-up appeared
 - d. Clicked Next for “Host Summary” menu
 - e. Clicked Evaluation License for “Assign license” menu
 - f. Clicked Disabled for “Lockdown mode” menu
 - g. Clicked Finish
5. Repeated steps 1 – 4 for 10.18.22.25 (Server 02)
6. Right clicked Win10A
 - a. Selected Edit Settings
 - b. Selected CD/DVD Drive 1 dropdown menu and selected Host
 - c. Checked off radio button beside “CD/DVD drive”
 - d. Selected Save
7. Repeated step 6 for Win10B
8. Went to *10.18.22.27* (Server 01)
9. Went to Configure | Networking group | VMKernel adapters

- a. Clicked vmk1 and selected Edit
 - b. Clicked the checkbox next to “vMotion” and selected Ok
10. Repeated steps 8 – 9 for 10.18.22.25 (Server 02)

Installing RTFM as a resource on VMware Servers

1. Logged into Group22SRV01 from *10.18.22.27*
2. Navigated to Storage | Datastores | new datastore
3. Selected Mount NFS datastore and clicked Next
4. Provided NFS mount details
 - a. Name: *RTFM*
 - b. NFS Server: *10.2.1.22(rtfm.cit.lcl)*
 - c. NFS share: */mnt/rtfm/ISO*
5. Clicked Next
6. Clicked Finish on ready to complete screen
7. Repeated Steps 1 – 7 but logging into 10.18.22.25 (Server 02)

Installing VMware Tools on each VM

1. Navigated to *10.18.22.25* (Server 02)
2. Right clicked Win10A, selected Guest OS and Clicked Install VMware Tools
3. Launched a browser console to the VM by clicking the screen of it
4. Went to Start | Run
5. Typed *D:\setup.exe* and pressed **Enter**
 - a. Selected Yes when asked to allow the program to make changes to computer

- b. Clicked Finish button in VMware Tools setup to exit out
 - c. Rebooted VM
6. Repeated Steps 2 – 5 for Win10B and Windows Server 2016 on Server03

Activating license keys on VMware ESXi Server and vCenter Appliance

1. Went to *10.18.22.29* (vCenter)
2. Selected “Activate License” warning on the top of the web page
3. Entered given license number from *rtfm.cit.lcl*

RESULTS

After following the procedures listed above, all requirements of the business scenario were complete. ESXi Servers were successfully installed onto each server, physical to virtual conversions were made on several machines and moved to the ESXi Servers, vCenter was installed and joined with the ESXi Servers along with VMware Tools, several data stores were implemented, including a SAN using iSCSI, and virtual machines were migrated to the ESXi Servers. This all allowed for an extensive virtualized environment that is highly accessible yet remains very low in resource cost and maintenance due to minimal physical hardware required for the network.

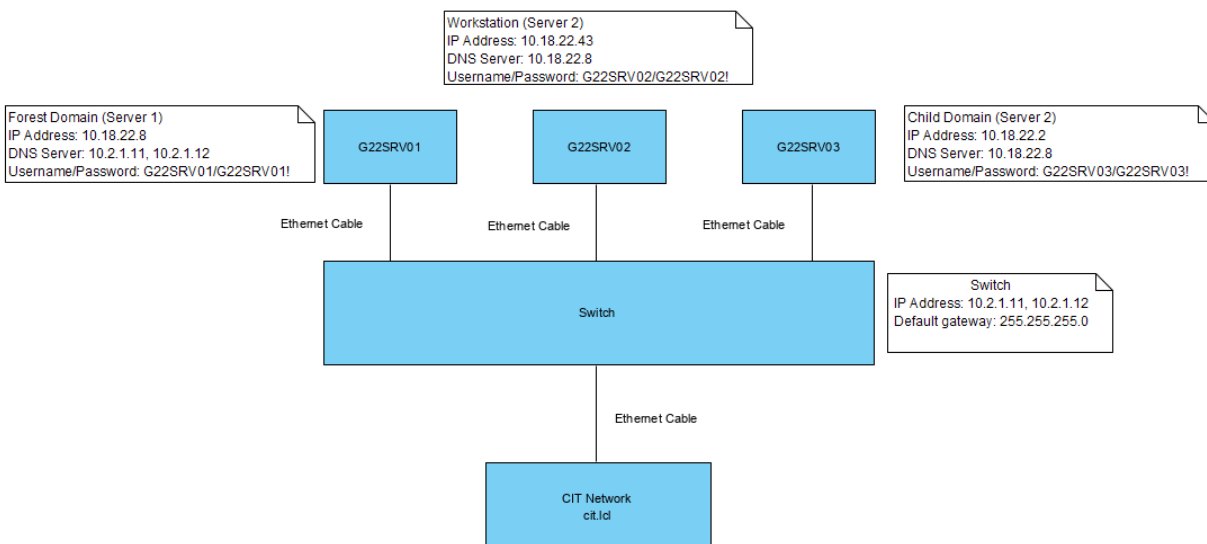


Figure 3: Physical Network Diagram

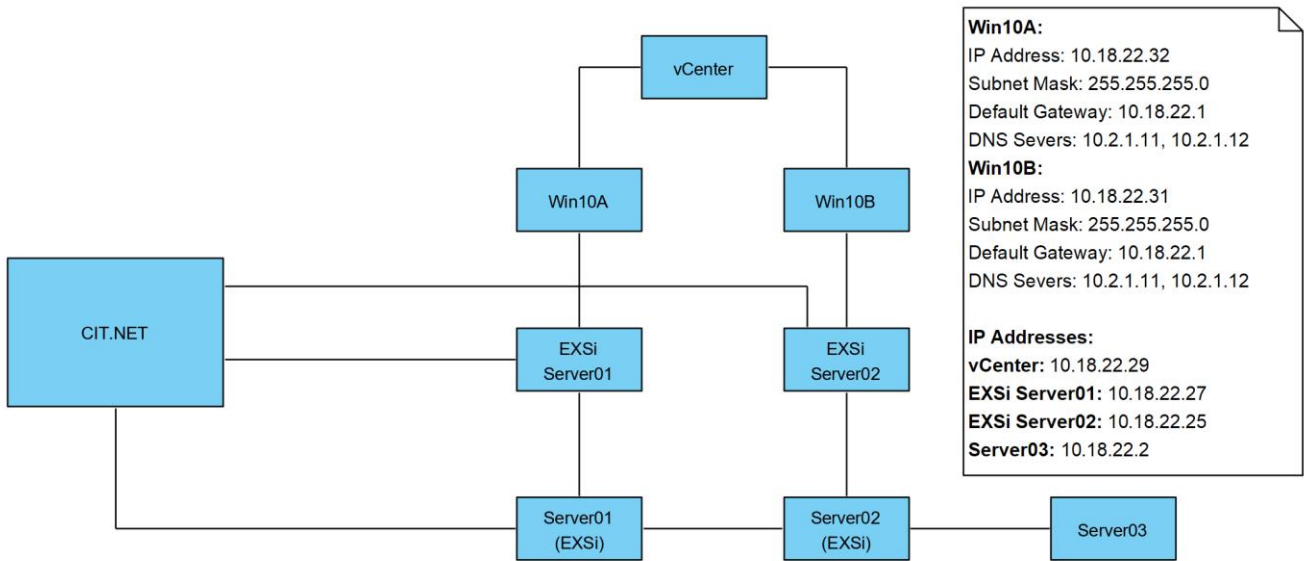


Figure 4: Logical Network Diagram

Conclusions and Recommendations

After completing all of the procedures listed above, the project was a success and all the required criteria were met. The ESXi server and VCenter were working flawlessly and all VMs across the network could be accessed as well as the newly created datastores. The new configurations are bound to increase productivity due to the vastly extended virtualized environment that ServerTech's network is now operating on.

Recommendations

Recommendation 1: During the creation of passwords in VMs, Windows client, vCenter, and EXSi Server, the passwords should be uniform due to the overcoming complication of passwords when logging in at other times. Remembering one universal password for such a lab that has numerous authentications in the process can be very beneficial in the speed of the lab. Creating one password and recording that down on a note is the best method to efficiently go down the process without having complex issues due to incorrect passwords.

Recommendation 2: Allow for plenty of time for VCenter to install, as installation could freeze and fail to install. When this happens several times, it could take several hours for vCenter to successfully install.

Recommendation 3: Install an alternative web browser to access the ESXi Servers as Internet Explorer configurations on the domain controllers are so strict that it will not allow for a connection to be made to the ESXi Server.

Recommendation 4: Use a method for creating unique but similar passwords for the virtual machines, ESXi Servers or vCenter. This helps with remembering the numerous passwords created by being able to have something to reference rather than writing the passwords down which is not a safe practice.

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APPENDIX A: PROBLEM SOLVING

Problem 1: Installation of ESXi Server

Problem Description: While attempting to install the ESXi Server on Server 02, the screen shown when the installer files were being loaded only showed the bottom half of the correct screen at the top of the monitor. This resulted in the ESXi Server not being able to be installed correctly.

Possible Solutions: Some possible solutions were to restart the installation from the beginning or obtain another ESXi Server Installation USB to use for the installation.

Solutions Attempted: Both of the possible solutions were attempted. The first solution attempted was to just restart the installation from the beginning by turning the computer off then on and following the same steps done previously, but this solution resulted in the same problem. Then attempted the solution of using another ESXi Server Installation USB which was successful.

Final Solution: The final solution was to use another ESXi Server Installation USB to install the ESXi server. Used the exact same steps as previously mentioned when using the other USB, which are outlined in the Procedures section of this report. A possible reason this problem occurred could be data corruption with that specific installation file on the first USB.

Problem 2: ESXi Server System Customization

Problem Description: After completing the installation of the ESXi Server, the next step is to reboot the machine in order to bring up the System Customization screen. After the restart, the windows login screen kept appearing instead of the System Customization screen for the ESXi Server.

Possible Solutions: Possible solutions included restarting the installation from beginning and overwriting the existing server installed on the local disk, upon restart change boot sequence settings.

Solutions Attempted: Both of the possible solutions were attempted. The first attempted was to restart the installation from the beginning verifying with the T.A. that the method were correct during the process of the installation. This ultimately resulted in the same problem occurring. The second possible solution attempted was to change the boot sequence settings during a restart of the machine which was successful in solving this problem.

Final Solution: The problem was resolved by going into the setup menu upon restarting the machine by pressing F12 as soon as the computer starts up. Then under settings navigated the options *General | Boot Sequence* and moved the option UEFI HGST HTS721010A9E630, by clicking the up arrow located to the right of it, to be above the Windows Boot Manager. Then pressing Enter.

Problem 3: Installation of vCenter

Problem Description: When attempting to install the instance of VMware vCenter Server Virtual Appliance on Group22SRV01 would result in a white screen after part 1 of the installation was complete and prior to part two beginning.

Possible Solutions: Possible solutions were to restart the installation from the beginning and follow the same steps as before or to restart the installation but change the DNS configuration during the first of the installation.

Solutions Attempted: Both solutions were attempted. The first solution attempted was to restart the installation from the beginning. Before reattempting the installation, removing the virtual machine “VMware vCenter Server Appliance” created from the failed installation on ESXi Server 01. Retrying the installation ultimately did not solve this problem. Then, attempted the second potential solution which resulted in the problem being solved.

Final Solution: The fix to this problem was to first delete the failed installation’s virtual machine from ESXi Server 01. Then during the installation when choosing network configuration instead of entering 10.18.22.8 as preferred DNS Server, enter 10.2.1.11 and 10.2.1.12 then continue with the installation. The steps followed to achieve the successful installation can be found in the Procedures section of this report. A possible reason this error occurred is because the original DNS Server address being used was the IP address of the G22SRV01 domain controller for the Windows Server 2016.