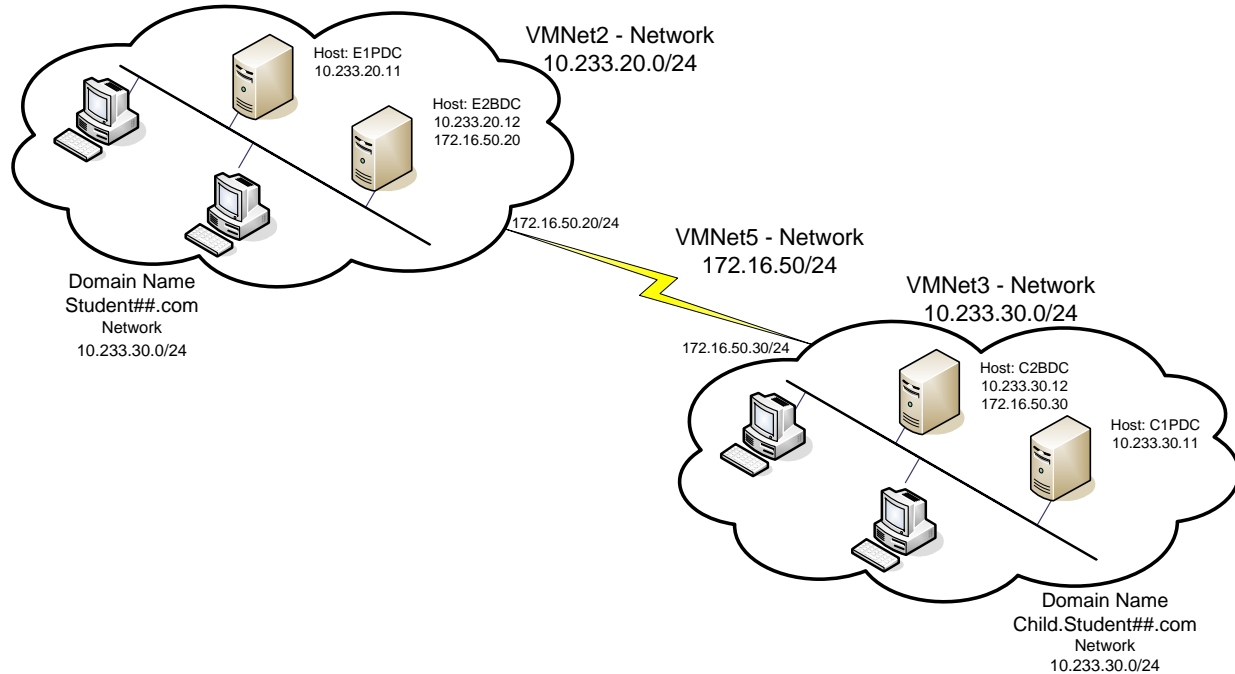




Lab: Windows Active Directory Design and Implementation Scenario

Objective: Design and implement a Windows network using Active Directory.

Scenario: You have been asked by management to design and implement a Windows network for the company. The company has two locations. You design your network as two physical sites connect through wide area network (WAN) link, as follow:



Your design includes two domain controllers at each site. You registered the domain name for each site and documented the network.

Network Topology				
Physical Site	Registered DNS Name	Network Name and Address		WAN Link
Headquarters	Student##.com	VMNet2	10.233.20.0/24	172.16.50.20
Branch Office	Child.Student##.com	VMNet3	10.233.30.0/34	172.16.50.30

Your design calls for two domain controllers at each site.

Site Resources				
Site Name: HQ	Name	IP Address	Gateway	DNS
Domain controller 1	E1PDC	10.233.20.11/24	10.233.20.12	10.233.20.11
Domain controller 2	E2BDC	10.233.20.12/24		10.233.20.11
		172.16.50.20/24		



Site Resources				
Site Name: BR	Name	IP Address	Gateway	DNS
Domain controller 1	C1PDC	10.233.30.11/24	10.233.30.12	10.233.20.11
Domain controller 2	C2BDC	10.233.30.12/24		10.233.20.11
		172.16.50.30/24		

You are now ready to start building and implementing the company's Windows network. You start at headquarter and your project plan is as follow:

1. Install the first server at headquarters

- Install and configured Windows 2003 Enterprise as follow:
 - User name: (First initial and Last name)
 - Admin Password: Pass*word
 - Organization: MCSE
 - Host name: E1PDC
 - Ethernet: VMNet2 (configure in VMWare NIC)
 - IP address: 10.233.20.11
 - Subnet mask: 255.255.255.0
 - Default gateway: 10.233.20.12
- Complete Enterprise lab 1 to install AD and DNS
Note: Preferred DNS should point to 10.233.20.11 after lab 1.
- Complete Enterprise labs 2 through 4 on domain controller E1PDC

2. Install the second server at headquarters

- Install and configured Windows 2003 Enterprise as follow:
 - User name: (First initial and Last name)
 - Admin Password: Pass*word
 - Organization: MCSE
 - Host name: E2BDC
 - Ethernet: VMNet2 (configure in VMWare NIC)
 - IP address: 10.233.20.12
 - Subnet mask: 255.255.255.0
 - Default gateway: 10.233.20.11
 - Preferred DNS: 10.233.20.11
- Complete Enterprise labs 5 to install AD to implement Student## domain
- Complete Enterprise labs 6 – 7 on backup domain controller E2BDC

Headquarter network is fully functional.

You are now ready to start building the branch office network and establish connectivity between the sites over the WAN link.



3. Install the first server at the branch office

- Install and configured Windows 2003 Enterprise as follow:
 - User name: (First initial and Last name)
 - Admin Password: Pass*word
 - Organization: MCSE
 - Host name: C1PDC
 - Ethernet: VMNet3 (configure in VMWare NIC)
 - IP address: 10.233.30.11
 - Subnet mask: 255.255.255.0
 - Default gateway: 10.233.30.12
 - Preferred DNS: 10.233.20.11

4. Install the second server at the branch office

- Install and configured Windows 2003 Enterprise as follow:
 - User name: (First initial and Last name)
 - Admin Password: Pass*word
 - Organization: MCSE
 - Host name: C2BDC
 - Ethernet: VMNet3 (configure in VMWare NIC)
 - IP address: 10.233.30.12
 - Subnet mask: 255.255.255.0
 - Default gateway: 10.233.20.11
 - Preferred DNS: 10.233.20.11

The branch office servers are fully functional. It's time to connect headquarter and the branch office through the WAN link.

A quick review of your network diagram and documentation reveals that domain controller E1BDC at HQ and server C1BDC at the branch office are termination points for the WAN link. These computers need a second network interface card. You add a second NIC and configure the card as follow:

5. Configure Ethernet 2

- Domain controller E2BDC
 - Ethernet 2: VMNet5 (configure in VMWare NIC)
 - IP address: 172.16.50.20
 - Subnet mask: 255.255.255.0
- Server C2BDC
 - Ethernet 2: VMNet5 (configure in VMWare NIC)
 - IP address: 172.16.50.30
 - Subnet mask: 255.255.255.0
- Complete branch office lab 1 – to build your WAN link
- Complete branch office labs 2 – 7 to implement the Child.Student## domain



Network diagnostic (replmon in lab 7) seems to show the active directory replication topology to be inefficient. You decided to design and test a new site's replication topology.

Corporate security policy requires you to perform a complete system backup before testing a new strategy. You take a current status snapshot of each system using the "How to take/restore a virtual machine snapshot" and test your site design.

Your design includes – complete site management lab 1 and 2:

- Create a new site
- Rename an existing site
- Create subnets
- Move computers into the designated sites
- Implement bridgehead replication topology
- Adding global catalog server

The opportunity exists for you to simulate site failure in order to see how it affects users.

Complete site management lab 3 through 5 to simulate failure of (1) global catalog, (2) Relative ID, (3) PDC emulator, and (4) Infrastructure.

You are happy with the new design but you need management approval before implementation. You restore the servers to its previous snapshot using the corporate approved "How to take/restore a virtual machine snapshot" policy.

*** Restore your snapshots now, before disaster strikes ***