

Network Segmentation Example: Demilitarized Zone (DMZ)



- A computer subnetwork is placed between the organization's private network such as a **LAN**, and an outside public network such as the **Internet**, and acts as an additional security layer

- Contains the servers that need to be accessed from an outside network

- Web servers
- Email servers
- DNS servers

- DMZ configurations

- Both **internal** and **external** networks can connect to the DMZ
- **Hosts** in the DMZ can connect to external networks
- But hosts in the DMZ can not connect to internal networks



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Secure Network Administration Principles: Network Virtualization (NV)



- Network Virtualization is the process of **combining all the available network resources** and allowing network administrators to share these resources amongst the network users using single administrative unit

- This is done by **splitting up the available bandwidth into independent channels**, which can be assigned or reassigned to a particular server or device in real time

- This allows each network users to access all of the available network resources (files, folders, computer, printers, hard drives, or other resources) from their computer

Why Network Virtualization?

Efficient, flexible, scalable usage of network

To logically segregating the underlay administrative domain with overlay domain

To accommodate the dynamic nature of server virtualization

To provide security and isolation of traffic and network details from one user to another

To cope with the virtualization techniques in other areas (Compute and storage)



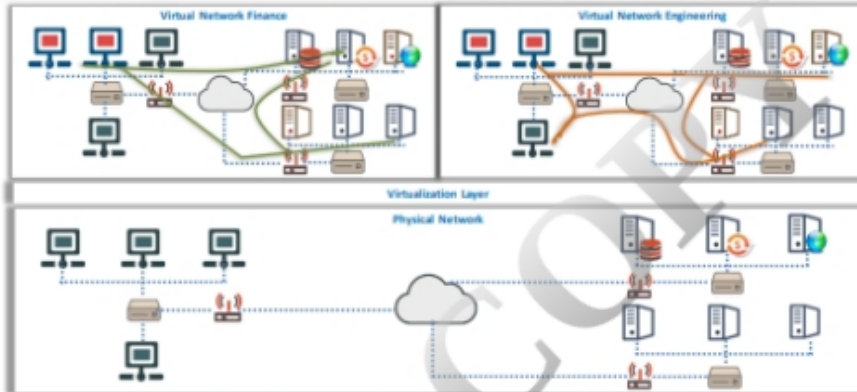
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Notes:

Secure Network Administration Principles: Virtual Networks



- Virtual networks are the **end product of network virtualization**
- Virtual network software is used for virtual networking. This software is either placed outside a virtual server (external) or inside a virtual server, depending on the size and type of the virtualization platform

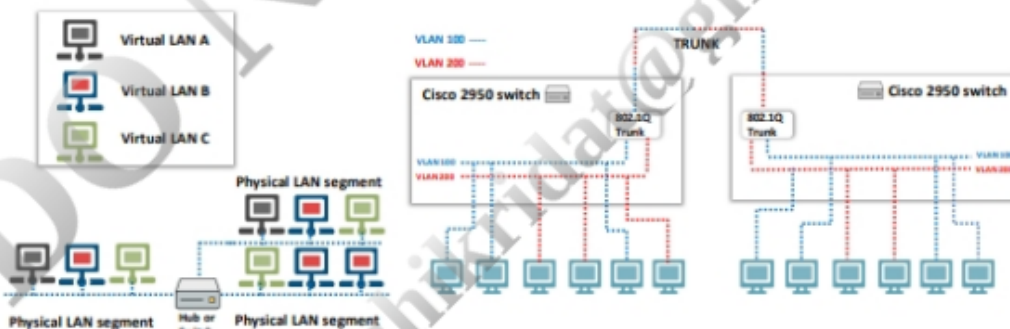


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Secure Network Administration Principles: VLANs



- VLANs (Virtual Local Area Networks) are **logical groupings of workstations**, servers, and network devices that behave as if they are on a single, isolated LAN regardless of the location
- The purpose of a VLAN is to create a **simple network with improved security** and better traffic management



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