NETWORK VIRTUALIZATION

Network virtualization:

1. Network virtualization is a method of combining the available resource in a network by splitting up the available bandwidth into channels each of which is independent from the other and each of which can be designed to a particular server or device in real time.

2. Each channel is independently secured. Every subscriber has shared access to all the resources on the network from a single computer.

3. Network virtualization is intended to improve productivity, efficiency and job satisfaction of the administrator by performing many of these tasks automatically thereby disguising the true complexity of the network.

4. Files, images, programs and folder can be centrally managed from a single physical site. Storage media such as hard drives and tape drives can be easily added or reassigned. Storage space can be shared or reallocated among the server.

5. Virtual LAN is an example of network virtualization that provides easy flexible and less expensive way to manage networks.

Virtual LAN:

1. VLANs logically segment switched networks based on the functions, project teams, or applications of the organization regardless of the physical location or connections to the

network.

2. All workstations and servers used by a particular workgroup share the same VLAN, regardless of the physical connection or location.

3. A workstation in a VLAN group is restricted to communicating with file servers in the same VLAN group.

4. VLANs function by logically segmenting the network into different broadcast domains so that packets are only switched between ports that are designated for the same VLAN.

5. Routers in VLAN topologies provide broadcast filtering, security, and traffic flow management.

6. VLANs address scalability, security, and network management.

7. Switches may not bridge any traffic between VLANs, as this would violate the integrity of the VLAN broadcast domain.

8. Traffic should only be routed between VLANs.

Additional VLAN components include:

1. High performance switches that logically segment connected end stations.

2. Transport protocol that carry VLAN traffic across LAN and ATM backbone.

3. Layer 3 routing solutions that existed VLAN communication between workgroup.

4. System compatibility and interoperability the previously installed LAN system.

5. Network management solution that offers centralized control , configuration and traffic management function.

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