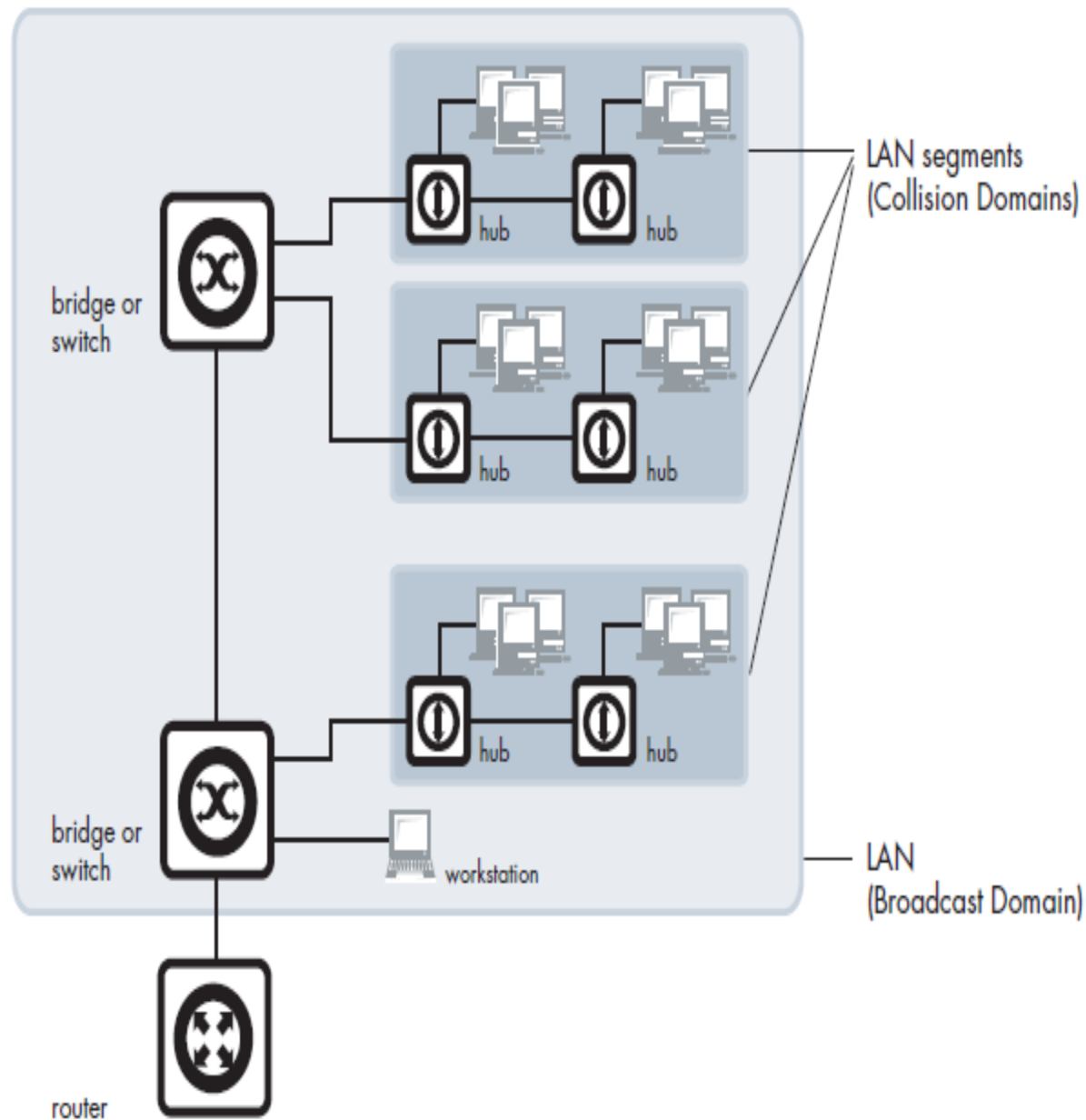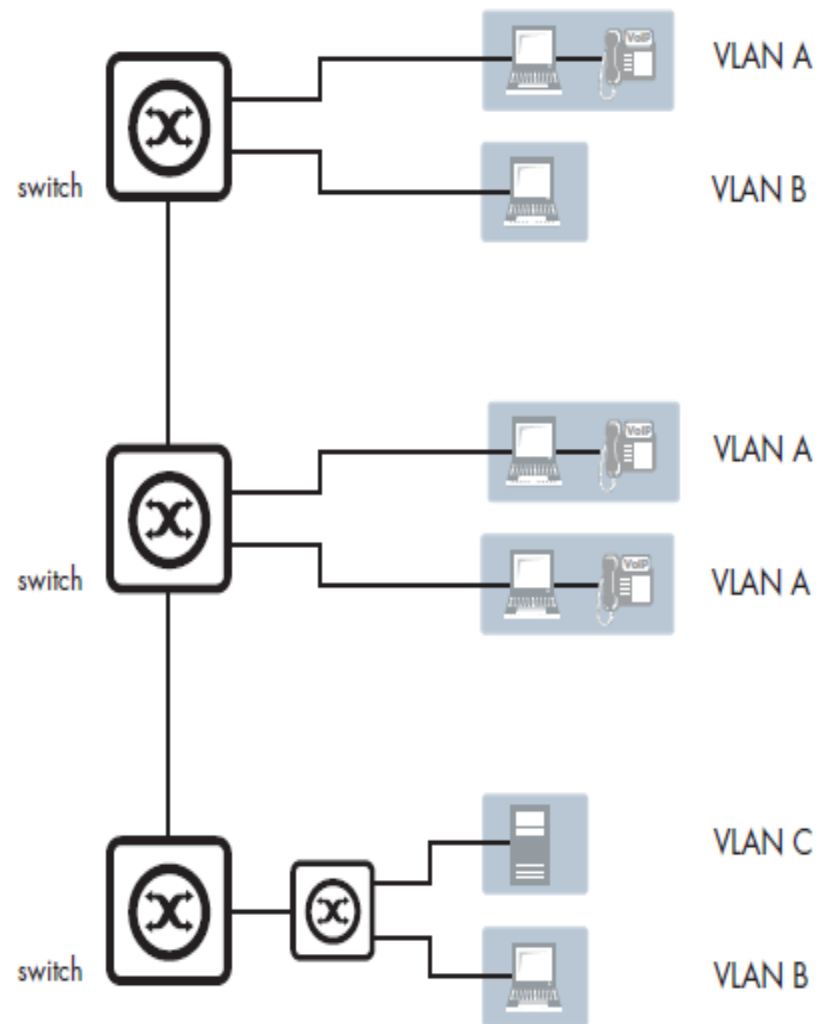# VLAN and VSAN

Concept of VLAN (Virtual LAN) and Benefits

- Virtual LAN is a logical segmentation of local area network (LAN) into different set of broadcasting domains. Because the segmentation is not physical it is called *virtual.* Different Users in same location or in different locations can use the same LAN.

LAN segments
(Collision Domains)

bridge or
switch

hub

hub

hub

hub

hub

hub

bridge or
switch

workstation

LAN
(Broadcast Domain)

router

switch   VLAN A

VLAN B

switch   VLAN A

VLAN A

switch   VLAN C

VLAN B

- ……… is a logical segmentation of local area network into different set of broadcasting domains.
a) Virtual SAN
b) Virtual LAN
c) Virtual WAN
d) Virtual PAN

Advantages

- High Performance:

  Generally, switches and routers need more processing time for incoming traffic because as the traffic passes through the routers, latency increases and the network performance decreases. If VLAN is used, then there is no need of extra routers since VLAN creates broadcasting domains.

- Virtual workgroups:

  In current scenario, most of the communication within the organization takes place in small workgroups (e.g. development team , marketing team , accounting team) to manage broadcast and multi-cast functionality within the workgroups, VLAN can be used to enable communication.

- cost effective

The cost of routers can be reduced when VLANs are used like broadcasting domains

- Easy administration

  Traditional LAN has many access management issues, including LAN cabling, new station setup and addressing, and configuration of hubs and routers. While using vLAN this access management effort can be reduced because user movement within vLAN requires no reconfiguration of routers and hubs.

- Enhanced security

  VLAN is also used to set firewalls, restrict access permission for outside access, adding an extra layer of security for intrusion detection and controlling broadcasting domain.

- Which of the following is not the advantage of VLAN?

a) High Performance
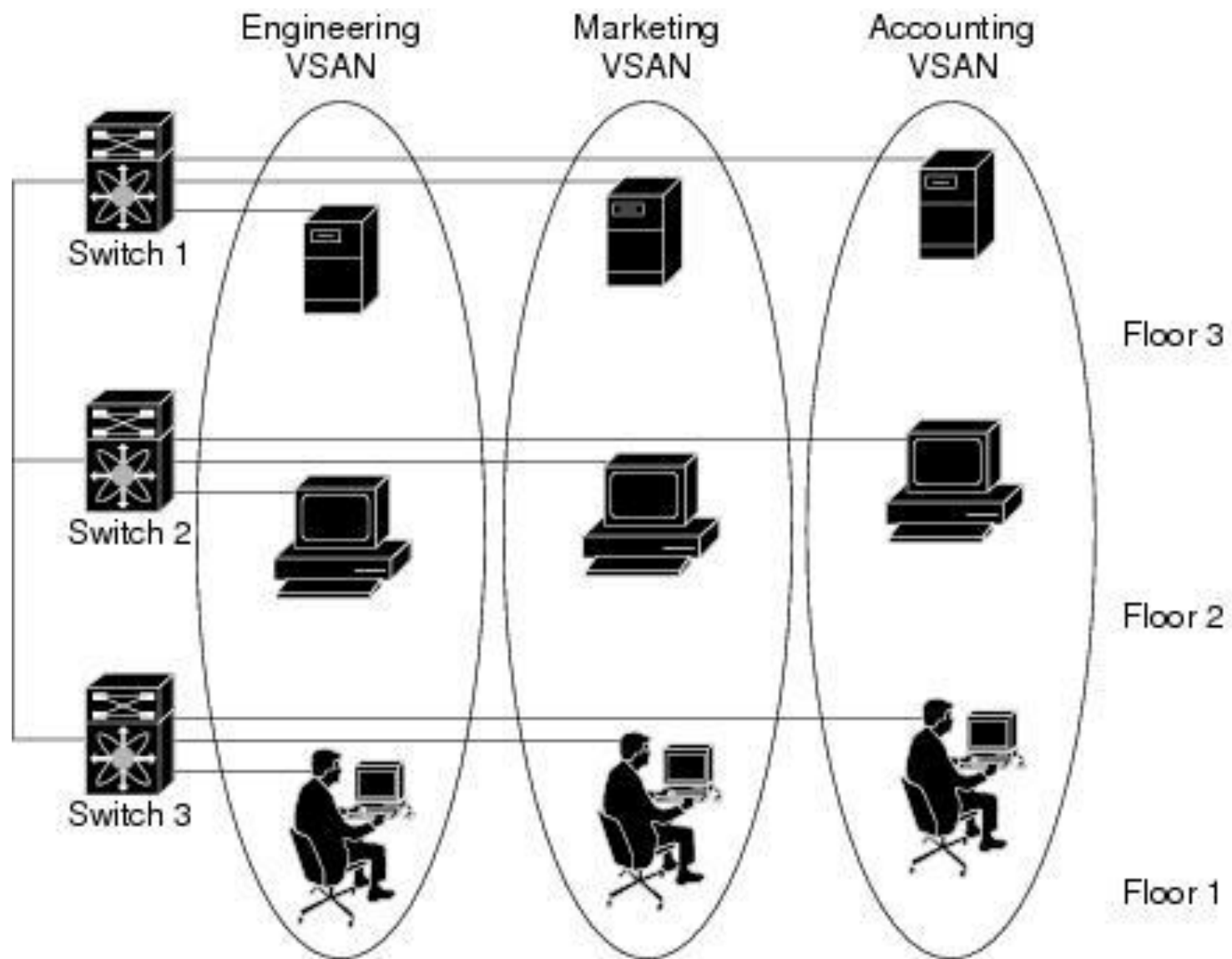b) cost effective
c) Virtual workgroups
d) None of the above

Concept of SAN (Virtual SAN) and Benefits

- When a Logical partition is created within a physical storage area network (SAN), it is called virtual storage area network (VSAN). Virtualization technology enables division and allocation of entire storage area network into more logical SANs
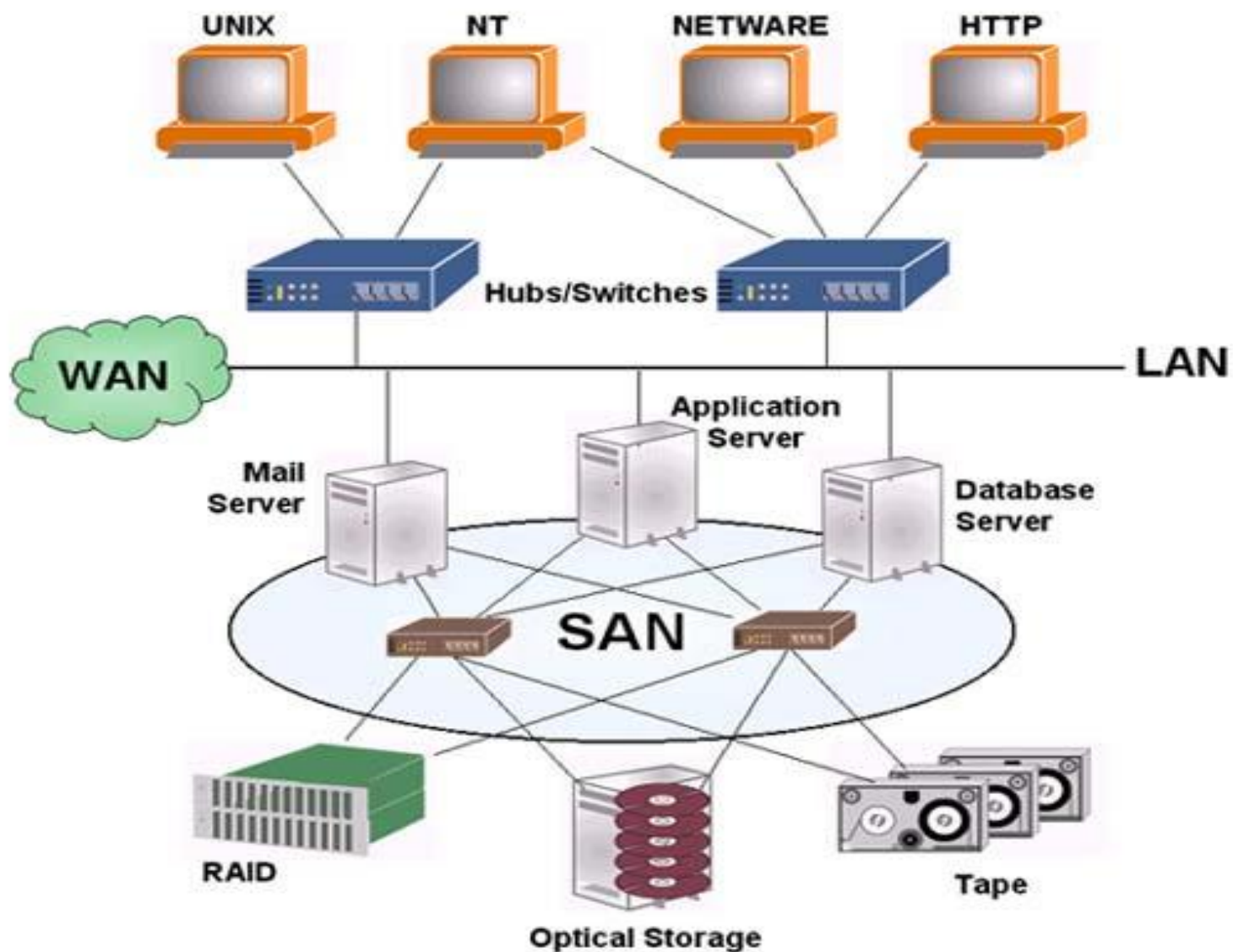
Figure 4.11 | Storage area network.
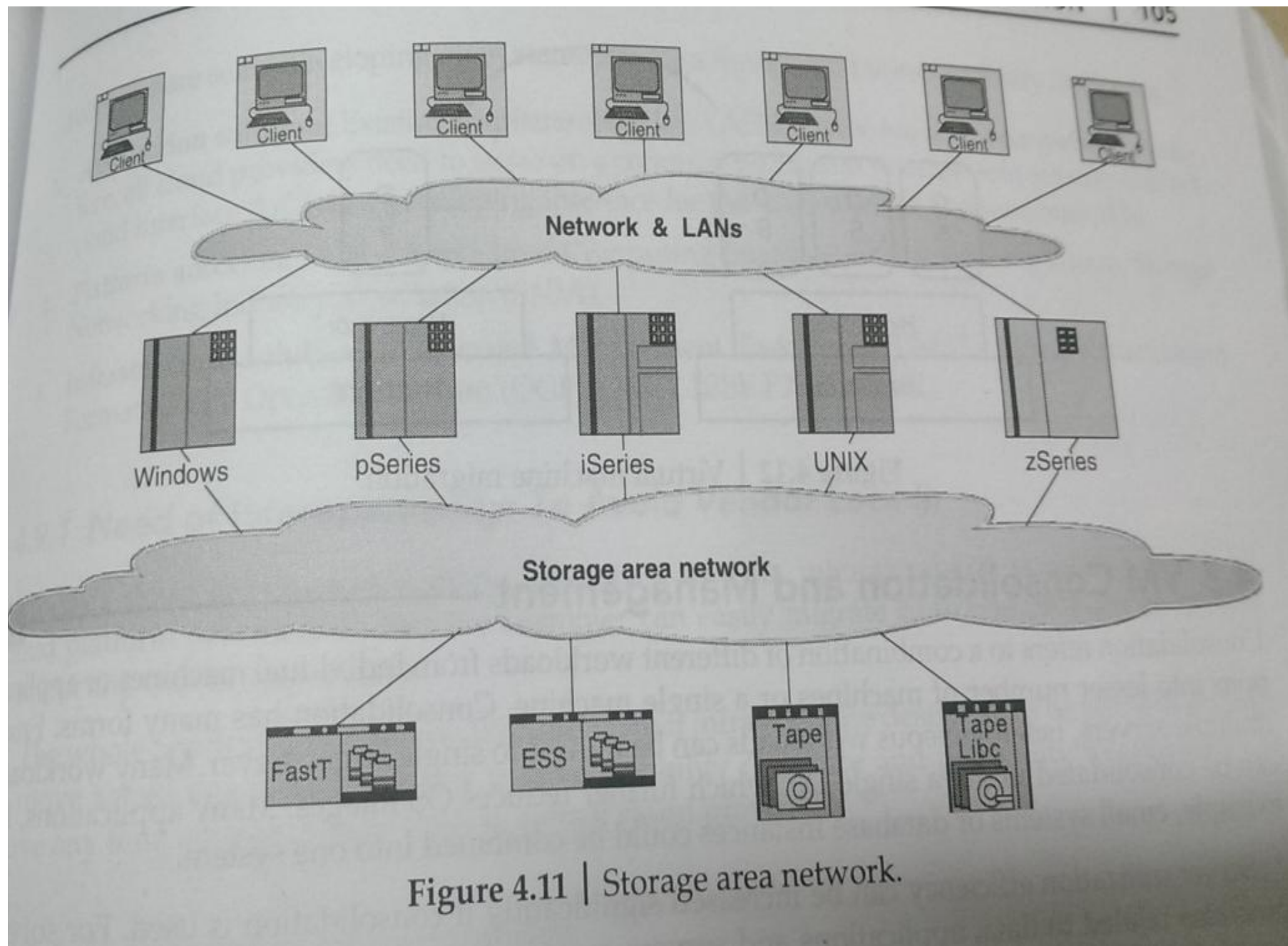
Benefits of SAN

- Enhanced application availability
- Higher application performance
- Centralized and consolidated storage
- Data transfer and vaulting to remote sites
- Simplified centralized management

Engineering VSAN · Marketing VSAN · Accounting VSAN

Switch 1

Switch 2

Switch 3

Floor 3

Floor 2

Floor 1

79532

Storage Area Networks

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VM Migration

- It refers to the movement or transfer between different physical machines without any discontinuity

VM Consolidation & Management

Figure 4.13 | Virtual machine consolidation.