NETWORK ATTACHED STORAGE

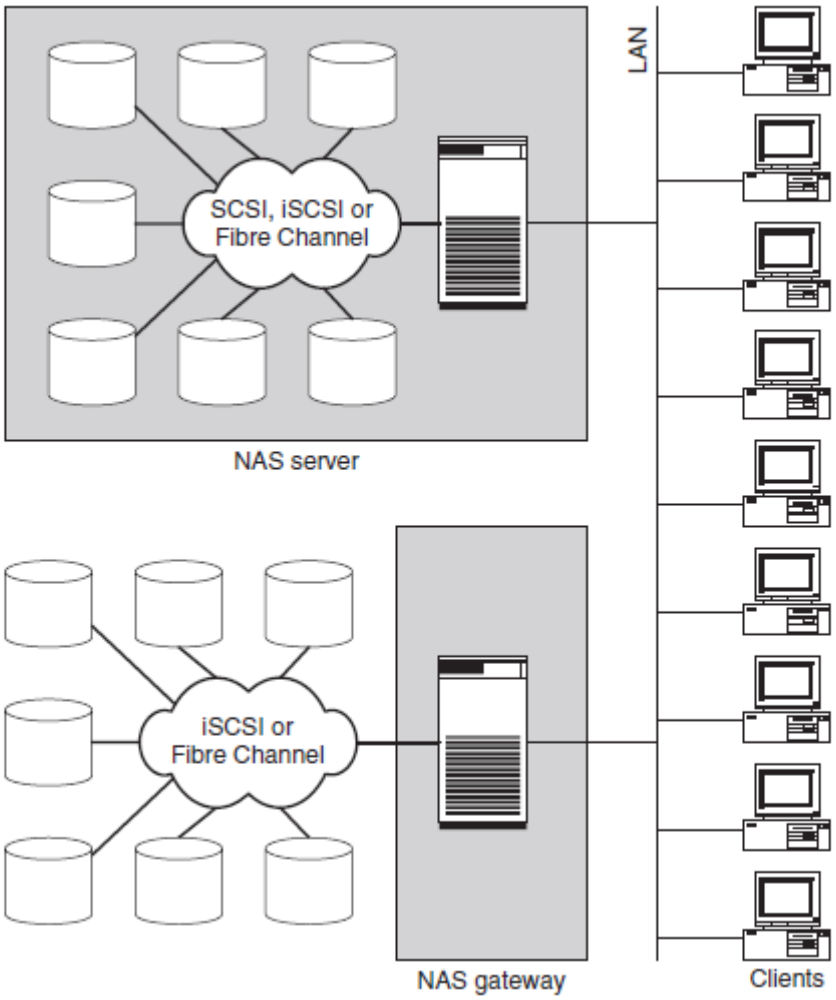
Network Attached Storage (NAS)

File servers are so important in current IT environments that they have developed into an independent product group in recent years. Network Attached Storage (NAS) is the name for preconfigured file servers. They consist of one or more internal servers, preconfigured disk capacity and usually a stripped-down or special operating system (Figure 4.6). NAS servers are usually connected via Ethernet to the LAN, where they provide their disk space as file servers. Web servers represent a further important field of application for NAS servers. By definition, the clients are located at the other end of the WAN so there is no alternative to communication over IP. Large NAS servers offer additional functions
such as snapshots, remote mirroring and backup over Fibre Channel SAN.

NAS servers were specially developed for file sharing. This has two advantages: since, by definition, the purpose of NAS servers is known, NAS operating systems can be significantly better optimised than generic operating systems. This means that NAS servers can operate more quickly than file servers on comparable hardware that are based upon a generic operating system.

The second advantage of NAS is that NAS servers provide Plug & Play file systems, i.e. connect – power up – use. In contrast to a generic operating system all functions can be removed that are not necessary for the file serving. NAS storage can therefore excel due to low installation and maintenance costs, which takes the pressure off system administrators.

Figure 5.6 A NAS server is a preconfigured file server with internal hard disks, which makes its storage capacity available via LAN. A NAS gateway is a preconfigured file server that provides the storage capacity available in the storage network via the LAN. NAS servers are very scalable.



are those offered by the manufacturer of the NAS server in question. Performance bottlenecks for more I/O-intensive applications such as databases, backup, batch processes or multimedia applications represent a further important disadvantage of NAS servers. These are described in the following subsection.

Source : http://elearningatria.files.wordpress.com/2013/10/cse-viii-storage-area-networks-06cs833-notes.pdf