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STORAGE ARCHITECTURE

In the modern world, information is the most valuable asset of any enterprise and its driving force. Its volume is growing every day and therefore it is necessary to effectively store and protect data. In addition to the problem of ensuring the possibility of constantly increasing the volume of stored information, the problem of constant access to information is no less acute.

Today we can distinguish one traditional – Direct Attached Storage (DAS) and two more advanced storage architectures - Network Attached Storage (NAS) and Storage Area Network (SAN).

DAS technology means the direct connection to the server or drive to your PC. In this case, the drives can be both internal and external. The simplest case of a DAS-system is one disk inside a server or a PC.

The advantages of DAS-systems are:

- low cost
- ease of deployment and administration
- high speed of data exchange between the storage system and the server

The disadvantages of such systems include first of all the necessity for network downtime at the time of addition new disks, as well as congestion of network traffic with the addition of new servers complicates the problem of data protection.

NAS systems are networked storage systems directly connected to the network, just like any other network device. In fact, NAS systems are optimized file servers with an optimized operating system and a balanced configuration.

Compared to traditional file servers, NAS devices are more productive and less expensive.

SAN is a specialized network infrastructure for data storage (data storage network).

In fact, SAN-networks connect one or several servers (SAN-servers) with one or several storage devices. In addition, data can be exchanged between data storage devices without the involvement of servers. SAN-networks allow a very large number of users to store information in one place and share it.

Based on the characteristics of each system, we can conclude: DAS retains its position in the segments of the home computer market and small business. The niche of medium and large enterprises will gradually be occupied by SAN- and NAS-systems.