Why do I need external storage systems?

Lots of servers embed hard disk hot plug slots, but why external storage system is still required? Specially, for the SMB users, they have limited budget, do they really need an external storage system? Does it matter if the user does not adopt external storage system?

Is there only one server in SMB environment?

SMB can be a small office starts from 10 to 20 employees to mid-size business up to 200 to 300 employees. Therefore, the numbers of servers are increased when the SMB scale is growing up. SMB could experience following issues when the numbers of server are increased.

1) *Limited scalability of storage capacity*

RAID card is the common technology adopted in server, RAID card provides the same storage technology as external storage system except RAID card requires software drives for each OS version and limited scalability. Therefore, when the server embeds storage runs out of capacity, it is hard to expand storage capacity in this architecture.

2) *Keep updating the RAID card driver while upgrading OS*

Server OS always requires to upgrade server pack when bugs occurring. Sometimes server embeds storage fails to connect with server after OS service pack is upgraded. Trouble shooting for this kind of issue is to make sure the embedded RAID card driver is the most updated f/w version.

3)   *Limited computing performance*

Server has a powerful processor, this processor has to manage application software, data I/O and also storage command … etc. Thus, server performance would be slowing down when tasks is more than processor capability.

4)   *Hard to manage the data distributed in each server*

Each server has dedicated application and mission. The data is distributed in each sever, it generated the difficulty to IT managers to backup each server data.

5)   *Increased cost of data management and storage*

When the data is distributed in each server, SMBs has to prepare hard drives for each server. It caused SMBs to spend more capital to purchase the hard drives to store the potential growing data in each server.

Is there any solution to make the data management easier and lower the cost? Yes! **External storage system is the answer**.

The answer and solution: External storage systems

External storage system connects servers via SAS, Fibre (FC) and iSCSI technology. It is not affected by the server OS & application software upgrading, also server processor performs its primordial performance without handling data I/O. Let's pick up iSCSI storage system as the example.

Servers connect to iSCSI storage system by Ethernet cable via Ethernet switch. It means multiple servers are able to share this iSCSI storage capacity to reduce SMB capital investment in purchasing hard drives initially to handle further storage capacity demand, if the storage capacity is out of order, SMBs are able to purchase JBOD to expand storage capacity. To handle different server access the data in the same iSCSI storage chassis, this iSCSI storage is able to segment to multiple partitions and assign each partition to each server.

Due to each server data is stored in the same iSCSI storage system, IT managers manage and back up each application server data easily to enhance their productivity and efficiency.

Wrap up

From the above iSCSI storage example, external storage system delivers following 3 major benefits.

1) *Flexible storage scalability*

2) *Higher efficiency of server & storage utilization*

3) *Central data management*

So now, you can give advice to SMBs about the importance to get an external storage system. SMB will realize the benefits from external storage system soon.