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ABSTRACT: Software Defined Storage (SDS)

Storage is an important part of our daily life from our baby pictures to our birthday videos. Early on, people needed physical drives for school, work, and personal information. The ages of expandable physical storage are beginning to come to its end. With the introduction of cloud services brings along Software Defined Storage or also known as SDS. SDS has given people the luxury of not carrying a physical storage device anymore. We can now save our information on the cloud with a press of a button. It is implemented to server infrastructures as it is not a set capacity. With Software Defined Storage, the capacity can be easily flexible depending on the company or infrastructure needs. SDS is more dynamic and allows resources to be added when demand increases during a certain period of time. This allows storage to be added almost instantaneously. Hardware is all virtualized as a software entity that is managed by an application rather than physically adding the resources to a facility. In SDS there is so much one can do in managing their storage from automation to scalability. Automation can control the total space needed by raising or dropping the storage amount based on the overall size required. Scalability plays a huge part in changing the size of all the resources without affecting the performance of it. One of the features that allow trouble free access is the flexibility of retrieving or uploading information. Although SDS have all these advantages, one risk in cloud services is security because everything is on the web and it can be hijacked by hackers remotely while physical drives are safer from potential data leaks. Without Software Defined Storage companies would need more machine rooms and more drives when other storages are full. That leads to companies paying more money for human resources in maintaining these weak and expensive devices. Unlike traditional drives which have limited space, cloud services are fairly cheaper in storage. As time goes by, companies do not need to pay much attention to physical drives now. The solution is with Software Defined Storage. Compared with local drive storage, companies do not need to pay much on the hardware, and cloud services have unlimited space. SDS allows companies to implement a pay-as-you-need storage infrastructure that is self-managed and more reliable. They also can set up the storage easily by the demand of companies. Software Defined Storage is the most efficient and cost-effective solution for nearly every company's infrastructure.