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Облачное хранилище данных

На сегодняшний день информационные технологии быстро развиваются и широко используются во всех областях нашей жизни. В том числе и облачные хранилища данных. Данная статья дает описание строения облачных хранилищ, особенности и цель пользования такими хранилищами данных.

Cloud Storage

For some computer owners, finding enough storage space to hold all the data they have acquired is a real challenge. Some people invest in larger hard drives. Others prefer external storage devices like memory sticks or compact discs. Desperate computer owners might delete entire folders containing old files to make space for new information. But some are choosing to rely on a growing trend instead: cloud storage.

While cloud storage sounds like it has something to do with weather fronts and storm systems, it really refers to saving data to an off-site storage system maintained by a third party. Instead of storing information on your computer's hard drive or another local storage device, you save it to a remote database. The Internet provides connection between your computer and the database.

On the surface, cloud storage has several advantages over traditional data storage. For example, if you store your data on a cloud storage system, you will be able to access that data from any location that has Internet access. You would not need to carry around a physical storage device or use the same computer to save and retrieve your information. With the right storage system, you could even allow other people to access the data, turning a personal project into a collaborative effort.

For a personal user, the most important advantage of cloud storage is convenience. With the increased usage of portable devices such as smartphones and tablets, access to cloud storage can be beneficial. It eliminates the need to manually transfer files from one device to another. Another important advantage is the added protection against file corruption because data is stored on multiple servers around the globe.

One disadvantage though is that your files might be vulnerable to hacking. This one concern is what makes a number of people mistrustful of using cloud storage for their more sensitive data. Another disadvantage is that should the cloud storage provider cease to exist, all your files will be lost. But the same goes for everything in life, there will always be some sort of risk. Educating yourself and weighing up the pros and cons should help you decide whether the use of cloud storage is for you.

The primary purpose of cloud storage is to deliver instant memory storage to a user on demand in a flexible way. The architecture of cloud memory is layered: the first layer is known as the front end, it supplies users with a way to access the cloud, by exporting the API, usually the SCSI protocol. Then, the middle layer of the cloud is an algorithm, which handles where to place the information. The final layer is the physical servers and computers that hold the information.

Cloud computing is an abstraction of the traditional client-server model. Instead of owning one's own data servers, a user leases whatever amount of space he/she needs from a provider. This is an improvement because with the cloud you get exactly the amount of space you need, and only have to pay for that. This is a big advantage for businesses because they can pay for five machines during working hours, and drop down to one during off hours, as opposed to managing their own five servers 100% of the time. The key difference is that someone else is managing the storage, and willing to lease whatever you need on demand. In comparison the traditional client-server model is like buying a property, while cloud is like renting, sometimes when you are going to be using the resource a lot, and it is important to protect it is a good idea to buy (like home), in other cases when you're going to be sharing the resource a lot, and not always using it, renting is the better option (like office space).

The main factor in cloud performance is the transfer of information from the service provider to the user. The work for processing and storing data can be delegated to external hardware usually belonging to the service provider. Therefore, there is no need for the user to have the processing

power locally to have good performance. The only thing a user needs to ensure fast service is reliable and fast network access.

Availability is a key topic for cloud computing because nothing can beat the availability of good old solid-state local memory storage, it is 100% available excluding hardware malfunctions, the user has 24/7 access to their data. The cloud must find a way to compete with that around the clock availability. After a user uploads his/her data onto the cloud, it must be able to provide that data back to the user at any time or else cloud storage is unreliable and impractical for many applications. The main problems cloud services have to face are network outages that might happen on providers' side. One solution to network outages is information dispersal. Information Dispersal or (IDA) is an algorithm created by Michael Rabin, which splits data into pieces encoding it with Reed-Soloman correction codes so that it can be pieced back together given a subset of the original data. The only negative of IDA is the processing requires a lot of overhead and can be intensive without help from hardware.

With the popularity of cloud computing growing, so should concern for its security. Security becomes a much more complex issue when using the cloud because it is no longer an issue of simply protecting your disk, or flash memory devices. With the cloud, your information is out in the world somewhere and susceptible to other kinds of threats, including attackers trying to steal information, rapidly changing cloud architectures, the consumerization of storage, and regulatory environments.

As the use of SaaS grows so does the web-based organized crime. No longer are attackers simply hacking away for personal fame, with such valuable information being stored in the cloud, there is a growing population of attackers who are motivated by financial gain. Cyber criminals usually target the weak in comparison registration system used by cloud service providers who have limited fraud detection capabilities. Cloud providers compensate by using strict initial registration requirements, and follow-up verification. These additional steps when accessing your data on the cloud can slow the process down, but, for now, are the best solution to keep your sensitive information safe.

As computer technology becomes more advanced and powerful, more and more companies are turning to the cloud. Different types of cloud storage services are offered to the masses such as image only storage sites as well as file storage sites. Some software companies are also moving to the cloud, making their programs available via subscription

preventing access to software pirates and allowing users non-computer specific access to the program.

Two very popular cloud storage services you might want to check out for your personal use are Dropbox and Google Drive.

Most cloud storage companies offer free storage services ranging from 2GB to 16GB. If you need additional storage, space an upgrade to paid services will be necessary. Depending on which cloud storage company you choose and the size of the storage space or a storage plan, the price could range from a few dollars to a few hundred dollars.

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История и алгоритмы распознавания речи

Проблема распознавания речи сегодня является одной из важных прикладных задач IT индустрии. Данная технология имеет множество применений, начиная от создания интерфейсов для плохо видящих и/или испытывающих проблемы управления с помощью рук и заканчивая повседневными ассистентами в смартфонах и автомобилях. В этой статье рассказана история этой технологии от зарождения до повсеместного распространения, а также основные методы и алгоритмы, используемые при реализации программ распознавания речи.