Data Center Consolidation

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Data center consolidation is the term used for innovative technologies and techniques that allow for better implementation of information technology architecture. This paper will discuss strategies used for data center consolidation in detail and provide a detailed understanding of the issue. The three main factors that will be discussed are the use of bandwidth and high speed communication, cloud computing and mobile data centers for the future of data center consolidation. One thing that needs to be understood is that if the process of data center consolidation is taken out correctly then it can reduce expenditure, improve the efficiency, compliance and security while also negating the need to purchase additional storage ("Data center consolidation", 2019).

In the field of information technology, data centers are the central point of most of the services provided. Most companies employ data centers to solve problems regarding market strategy and data analysis of the costumer base. In the data-center the data leaving and entering is controlled by the bandwidth that is available for this purpose. On data center consolidation, bandwidth continues to be the one of the most-talked about constraints out there. Nowadays, the biggest concern for companies is not the idea of having the maximum amount of bandwidth, but the appropriate amount of bandwidth for the job. The factor of bandwidth and high speed communication becomes the leading factor when the company has multiple data centers. This is because more data needs to be transferred from place to place. Such a case can also be witnessed when the need for shifting of a data center takes place. The transfer of a large amount of data from one location to the next in a short time to avoid down time requires a large bandwidth. Fortunately, in this day and age, these bandwidth requirements can be very easily met as cheap and large-scale bandwidth options are found. Ethernet is becoming more amd more mainstream as it tends to provide an easier and cheaper solution to the bandwidth problem. Traditional T-carrier and SONET services tend to be more expensive then the Ethernet services. The balance between services and finances have to be maintained and thus the best possible solution has to be selected. There are online solutions also available which provide outstanding products in the form of bandwidth bundles at affordable prices. The biggest factor that is considered while trying to solve issues about bandwidth is cost, and multiple solutions are available in the competitive market at good rates.

Another aspect of data center consolidation that has been growing over the years is known as cloud computing. Cloud computing essentially means using the resources of someone else’s machine for storage and processing purposes. It is one of the most upcoming technologies in the field of information technology. It makes developing startups very easy and the deployment of newly built apps as new companies rarely have enough resources. Such consolidation of data can have its own security repercussions but there are some advantages to this at well. The era of cloud has seen the world of data centers transform from individual servers to consolidated cloud data centers. This consolidation helps service providers to utilize services, spreading data between a number of providers with different options and different TOR for each service. Such advancements can make startups depending on such facilities grow manifold as they have access to easy app deployment and maintenance services which can be further used to enhance the user experience. On the other hand, a number of drawbacks are also there for the consolidation onto cloud taking place nowadays. People investing in on-premise servers have better control over the software and payment methods than that of cloud based servers. The user, in case of cloud based servers, sometimes, does not have the option of not-installing new updates etc. This can effect the experience of the users as the users expect best services from a new company. Considering the complexity of incoming hardware and processes, the decision of deploying all the data on the cloud should be taken seriously and with good cause.

Mobile data centers are also being deployed for making the process of data center consolidation more streamlined. With the decrease in physical size of data centers, it sometimes becomes the need of the hour to have a mobile data center, as it can help in the reduction of bandwidth need of shifting data from one data center to the next. The data needs can also appear at unusual places, thus modular data center solutions come to the rescue. Modular data centers provide small scale data services in required places. Such data centers can help in the decentralization of data from a singular place to several small data centers (Kavania, Pouria, 2017). The deployment of small and mobile data centers as a replacement for one big deployment does not only improve the capacity of the company to provide services to its users but also improves the cost benefits for the company. The purpose based solutions as provided by data centers for companies are actually very important for startups as it makes them grow into the market place and provide the services that are promised without putting too much strain on them financially.

Works Cited:

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