Data storage systems as the company's operating efficiency tool

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Abstract

The modern IT infrastructure, as well as information as a strategic business asset, means that more and more businesses are turning to storage service providers. However, government organizations and state agencies cannot always use these services, so they are purchasing and maintaining their own systems. Selecting the right storage solution based on needs of the agencies can be a complex process due to government procurement regulations. Therefore, they are trying to use electronic procurement system.

Keywords: data storage systems, performance, electronic procurement system

1 Introduction

Modern businesses are creating more data than ever before. Customer records, transactional data, and website analytics are just a few of the list that businesses may use every day to promote and sell their products. This endlessly increasing volume of data has created a need for storage solutions that meet a variety of requirements such as security, accessibility, and scalability.

The data storage system is a complex of software and hardware designed to manage and organize the reliable storage for large amounts of information, and fault-tolerant high-performance servers to access the storage devices. The best way to select the appropriate storage solution is to establish a precise and detailed list of requirements. The most important criteria for such choice are:

- Performance (MB/sec, IOPS, RPM, etc.)
- Desired RAID level(s)
- Raw capacity versus useable capacity
- The number of the host connections
- The number of the storage partitions
- Specific OS support
- Reliability, availability, serviceability (RAS)
- Amount of memory cache
- Specific features (such as Snapshots, remote replication, etc.)

The next factor we should consider when choosing a storage solution is the storage type. SANs typically utilizes Fibre Channel connectivity, while NAS solutions typically use TCP/IP networks, such as the Ethernet. But the real difference is how the data is accessed. SAN accesses the data as blocks, while NAS accesses the data as files. Finally, we need to consider the cost of the data storage solution. We often know our budget limits and can easily tell if something is in our price range in IT. Planning and implementing the storage solution takes a lot of time and effort. There is no one universal solution to finding and figuring out what storage is going to meet most of company's needs. Taking the factors mentioned above into consideration will help us to pinpoint which vendor has the closest match for data storage requirements

2 Overview

This work provides guidelines on the criteria for selecting the data storage choices enabling the administrators and business managers to make a well-thought decision. Additionally, different types of storage systems, storage networking technologies as well as concepts related to storage security and storage management were analyzed.

3 Conclusion

The existing data storage system at the State agency does not satisfy the needs and requirements for storing and collecting information on services provided to clients. After detailed requirements collecting and electronic procurement system exploring, the decision was made.

Considering the correlation between the functionality, the price, and the quality the EMC Unity 300 Hybrid data storage system has been chosen. The EMC Unity provides a solution that meets our current needs and is future proof as well.

References

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