

EE4217 Assignment 1 (Total 30%)

1. SAN Case Study (15%)

A mid-sized publishing house has a centralized IT department located in San Francisco, CA, connected to 3 branch offices on the west coast. Recent analysis of the storage environment suggests that they are getting poor ROI in their storage infrastructure. The company's current infrastructure consists of several storage arrays direct-attached to a heterogeneous mix of 90 servers. All servers are dual-attached to the arrays for reliability and redundancy.

Since each storage device has 32 connectivity ports, each could support a maximum of 16 servers. The company sees the 32-ports as a limitation. Each storage device has the disk capacity to support more than 16 servers. However, there was no way to add a 17th server to make use of that capacity and support future growth.

Proposal:

How would you suggest that the company restructure their environment?

[10 marks]

List the advantages and disadvantages of your proposed solution. (**Note:** You will need to justify your choice based on scalability, performance, and availability of the new solution.)

[5 marks]

2. Remote Replication Case Study (15%)

A Manufacturing Corporation maintains the storage of their mission critical applications on high-end Storage Arrays on RAID 1 volumes. The corporation has two data centers which are 50 miles apart. The corporation's mission critical Database application takes up 1 TB of storage on a high end Storage Array. In the past year, top management has become extremely concerned because they do not have DR plans which will allow for zero RPO recovery if there is a site failure. The primary DR Site is the 2nd Data Center 50 miles away.

The company would like explore remote replication scenarios which will allow for near zero RPO and a minimal RTO. The company is aware of the large costs associated with network bandwidth and would like explore other remote replication technologies in addition to the zero RPO solution.

Proposal:

Propose a remote replication solution to address the company's concern. [5 marks]

Justify how your solution will ensure that the Company's needs are met. [10 marks]