

DISASTER RECOVERY ENVIRONMENT BUILT FOR SECURING BUSINESS CONTINUITY AT MINIMUM COST BY ADOPTING ORACLE DATA GUARD

Japan Vilene Company, Ltd. ("Japan Vilene"), a leading nonwoven fabric company in Japan, implemented SAP products in the enterprise system and Oracle products for its database system in 1997. Recently, at the time of system upgrading, Japan Vilene built a disaster recovery environment by replacing the previous server with PRIMEQUEST, a key IA server from FUJITSU LIMITED ("FUJITSU"), and introducing Oracle Data Guard. We interviewed Mr. Mikio Nakamura, the manager in charge of information system at the Management and Finance Department, and Mr. Tatsuya Sekiguchi, a section head at the same department, about the series of system building processes.

SAP adopted in the late 1990's as a mission-critical system

Since its establishment in 1960, Japan Vilene has been building all their business systems in-house on its mainframe system. For parts of their other systems, they used systems from various affiliated companies. However, in the latter half of the 1990's, the need to address the potential effects of the Year 2000 problem on their systems required them to begin considering using completely independent systems as well as system migration. "Under such circumstances and also driven by the call for downsizing, the company opted to migrate to an open system instead of the previous host system." Looking back, Mr. Nakamura observes, "The year 2000 issue positively triggered the move toward system migration." The company also made a decision to concurrently adopt SAP as their business system. They adopted SAP because it was the most complete enterprise package software available at the time that would operate in an open system, he explains. Although the company has adopted Oracle Database, it once considered migration to SQL Server when migrating from UNIX to Windows. "Compared to SQL Server, we felt there was greater operational difficulty involved with Oracle Database. However, eventually, we decided to continue to use Oracle Database because we were concerned about the risk involved in migrating to SQL Server as well as its low level of reliability," Mr. Nakamura observes. According to him, the decision reflected an outlook that Oracle Database would provide products that would be as low

in operating load as SQL Server. "Actually, I see that is what is happening. Now we are glad that we have adhered to Oracle," Mr. Nakamura says.

Priority given to business continuity as a material manufacturer

Japan Vilene had a medium-term plan that included upgrading from SAP R/3 4.6C to mySAP ERP 2005. In the wake of this move, they also decided to build a remote backup system in order to implement a disaster recovery system that had been planned for some time in addition to implementation of a version upgrade from Oracle8i (8.1.7) to Oracle Database 10g Release 2, and the renewal of the IA server.





Mr. Nakamura explains the background of the decision to build a backup system as follows. “As a material manufacturer, Japan Vilene has a mission to ship orders to our customer manufacturers in a timely manner. Under these circumstances, we would face a serious problem if our enterprise operations experienced a failure that resulted in suspension of order acceptances or shipping. For example, in the case our system breaks down even for one day, the estimated damage that would be incurred would reach several hundred million yen (million \$) in terms of sales. However, the most threatening fact is the loss of trust as an enterprise, which cannot be measured in monetary amounts. For this reason, they had previously taken steps such as duplicating the equipment and the network to ensure the continuity of their business operations. Furthermore, backup measures had been taken by means of tape media and remote safekeeping of the tape media. Mr. Sekiguchi explains the reason why they decided to build a backup system despite such practices. “Carrying out a backup with tape media was indeed labor-consuming. From viewpoints of efficient backup and quick restoration in the case of a failure, replication seemed reasonable after all.”

The key factor for adopting PRIMEQUEST from FUJITSU: Duplication

In the latter half of 2006 when Japan Vilene began studying a series of tasks for migration and system buildup, the company examined several manufacturers with regard to their ability to upgrade SAP, renew the server and create a backup system, and the performance of the server itself. As a result, they selected FUJITSU to carry out the project. Looking back, Mr. Nakamura says, “The key factor was that FUJITSU had rich expertise with SAP and Oracle products. Another important factor was that PRIMEQUEST, the IA server they proposed, satisfied our requirements.” One of the great features of PRIMEQUEST is the duplex structure covering everything else except the CPU, which has been built using proprietary FUJITSU technology. According

to Mr. Sekiguchi, it is critical to have a redundancy system for the server itself from the viewpoint of efficiency and stable system operation. “Replication can also be achieved by clustering. However, such system configuration is very complicated and poses a burden on management. In order to be able to operate the system with a limited number of personnel, as is the case with our company, the simpler the system, the better it is. From this viewpoint, it is essential that the server system is in a duplex configuration in itself.”

Oracle Data Guard was adopted for its network-friendly features

A backup system can be configured in a variety of ways, using hardware and/or software solutions. Initially, FUJITSU proposed a system configuration technique that did not include the use of Oracle Data Guard. However, in the course of discussions between Japan Vilene and FUJITSU, the possibility of using Oracle Data Guard was raised. “Actually, we have known about the Standby Database function that preceded Data Guard. We have even tested it in-house. At that time, we gave up the idea of implementing it due to financial constraints as well as the existence of certain functional shortcomings. However, as we have been hearing recently that more and more companies are using the program, the product has attracted our attention anew. While Mr. Sekiguchi was worried about the adoption of Oracle Data Guard based on the above knowledge, his greatest concern was the issue of the network. “We were building a remote environment at the Ibaraki Plant. However, at the plant, only ADSL (the effective transmission rate: 1 - 2 Mbps) was available due to constraints specific to the area. Thus, we needed to consider introduction of a leased line, depending on the band required. That would mean a steep rise in running costs as well as in implementation expenses. However, as discussions progressed, it became clear that the band issue could be solved with Oracle Data Guard.

“The important factor was what volume of data should be updated at what frequency.” (Mr. Sekiguchi) So Japan Vilene reviewed the allowable amount of time that could be consumed for system recovery required at the company, setting as part of the backup policy that data must be updated once every hour. Also, data volume for a file was set to 50 MB and the transfer amount was assumed to be 5 – 10 files per hourly transfer task for daily operations. According to a simulation result, at this level, such system operations should cause virtually no impact on the network when viewed as a one-day cycle even though there would be a possibility of the occurrence of some network delays during peak hours.

Having a backup system – A virtue in itself

In February 2007, the implementation scheme was finalized, and the actual system buildup process started in June of the same year. After repeated tests in a virtual environment built in the main office and the remote environment built at the Ibaraki Plant, full-scale operation of the backup system started in February 2008. In this configuration, Oracle Data Guard is used as the data transfer technology and FUJITSU provided the operational mechanism including hourly updating using their proprietary know-how. At present, this backup system is operating in a stable state without adding a load on the network, as was predicted initially. The efficacy of the implementation of the backup system cannot be evaluated unless a failure actually occurs. The most important thing is, however, not to “use” the system in such a situation. “A competent system is reliable. However, the important point is that we “have” this system, rather than we have to “use” it. The fact that we have a system to ensure business continuity provides a differentiation factor against our competitors, which will promote the relationship of mutual trust between customers and the company. Now that business operations cannot exist without a business system, a trend being noted is one in which “the level of system reliability is tantamount to perceived reliability as an enter-

prise.” Given these circumstances, we can reaffirm “the significance of possessing a backup system.” Meanwhile, Mr. Nakamura refers to cost performance. “Considering safety, we tend to input excessive amounts of investment. On the other hand, a backup system itself does not generate profits. That limits companies’ capacity to invest just in that. So costs must be reduced to some extent. Considering our backup system configuration with Oracle Data Guard from that viewpoint, no additional costs are involved as we use the standard features, except for the creation of the remote environment. That means we receive excellent cost performance. We are deeply satisfied with the fact that we were able to build a disaster recovery environment at minimum cost,” he says.

