



Customer Application

DES and Bay Networks



Bay Networks, one of the world's largest networking companies, is in the midst of an ambitious development effort to deploy a new system to manage its rapidly growing business. Until the new system is fully operational, the company is using solid-state database accelerators from Database Excelleration Systems to greatly enhance database performance of its current system. When the new system goes online, the SCSI-based DES Excellerator will seamlessly transfer to the new client/server environment.

Running to Stay in Place

The new client/server system, based on Sun, Oracle, and SAP, will replace an aging DEC VAX/CA-MANMAN system that is forcing the Company to "run just to stay in place," according to Paul Massie, Bay Network's Director of Information Systems. "MANMAN is a very good solution for small-to-medium-sized companies – maybe up to \$500 million in size," said Massie. "Our revenues were \$1.34 billion last year and growing rapidly, so we have clearly exceeded what most would consider the theoretical maximum of the system we're on."

As an interim solution, Bay Networks looked at upgrading the VAX

and CA-MANMAN systems, but quickly concluded that costs involved in bringing current the VMS operating system and a heavily customized version of CA-MANMAN – if in fact the Company could locate all the source code and documentation – would be prohibitively expensive and time-consuming.

Industry: Networking

Application: CA-MANMAN

Processing Hardware: DEC VAX

Function: Manufacturing/
Packing Slip Processing

DES Products:
Database Excellerators,
Model 800D

"Upgrading really wasn't an option for us," Massie said. "Optimistically it was a six-month conversion process. Add to that the 12-15 month conversion process to our new SAP environment we were already going through and you can see that it made no sense at all.

"This system effectively has to run our business until we deploy our new system," Massie said. "When you're trying to ship \$5 to \$10 million worth of

goods a day, you've got to be able to generate your packing slips in seconds. We were seeing delays of up to 10 minutes, so this was a critical bottleneck area for us."

According to Massie, Bay Networks improved system performance by tuning the database, but the packing slip process was still taking minutes, and therefore not allowing the company to meet its shipping goals. "We had to speed up the system," he said.

Massie knew of solid-state disk technology as a potential solution to Bay Network's I/O contention. "I knew it could be a solution to our problems," he said.

Packing Slips Process In Seconds

Bay Networks incorporated three Gigabytes of solid-state database accelerators from Database Excelleration Systems into its CA-MANMAN environment, loaded frequently accessed MANMAN files onto the solid-state database accelerator, and the system immediately gained new life. "We are now able to generate our packing slips in seconds instead of minutes," Massie said. "The DES systems have enabled us to continue to run our business.

We were at the borderline stage of not even being able to maintain our current business, let alone sustain the anticipated growth rate of the company.”

Bay Networks installed the DES systems primarily to solve the packing slip process. However, the regularly scheduled unload/reload process, that essentially cleans and tunes the database, has also benefited.

DES Helps Keep Revenue Stream Flowing

“The process was very slow. It is an extremely I/O-intensive operation,” said Massie. “It was taking six to seven days when we were using magnetic disks, and since we can’t access the system during that time, we were effectively shutting down business, representing millions of dollars in lost revenue. Yet without doing the process our performance would continue to degrade.

“Using the DES systems we are able to perform unload/reload in two days, which means we have reduced the time required to perform this critical operation by more than three-fold,” Massie said. “This is a critical performance gain because it means being able to do it in a weekend with no impact to business, versus having to shut

“We are now able to generate our packing slips in seconds instead of minutes,”

*– Paul Massie,
Director of
Information Systems*

the business down for several days. We are back up and running on Monday morning with a refreshed database, so that alone probably paid for the cost of the solid-state database accelerator.”

Another key performance improvement occurred in the manufacturing area after Bay Networks moved the I/O-intensive “sales order detail” file to the DES system. “We have a manufacturing program that allocates parts that was taking up to 90 minutes to run. After putting just one file order detail on the DES system the time immediately dropped to 30 minutes,” Massie said.

Bay Network's database mix consists mainly of OLTP and batch processing, with some decision support. “We are now able to get acceptable performance levels even with those activities occurring simultaneously,” Massie said.

Bay Networks Achieves Business Objectives, Exceeds ROI

“The DES investment makes sense simply because it allowed us to meet our business objectives,” Massie said. “But one of the things that convinced me to buy the DES system is how well it works in the UNIX environment. Once we convert to the new system, we will move the DES systems to the new environment where we will use them to house critical Oracle and SAP tables. The DES systems will continue to be functional, useful, and critical to the success of our environment going forward.” Massie said.

“Although some may consider solid state disk technology an expensive solution, from the return-on-investment (ROI) point of view we might have invested \$500,000 in Database Excellerators, but we have achieved tens of millions in additional revenue and corresponding profit. So I consider it a very cheap solution,” Massie added.

“A Database Excellerator is not a solution for all problems,” Massie concluded, “but it is a beautiful solution for the right problem.”