

Customer Application

DES and Camelot Music



A simulated performance evaluation of Camelot Music's distribution system showed that processing projected Christmas volumes from its 402 retail outlets would take 22 hours. With a 3-hour window required for archiving, Camelot knew it needed to dramatically improve system performance to meet the Christmas season demand. After all, music retailers take in as much as 25% of their yearly revenue during the holiday season, so it was crucial that the computer infrastructure be in place to handle the load.

Building a Faster System

In all, Camelot has implemented nearly 90 process changes to build a faster system, including upgrading to Oracle 7.0, rewriting the company's order processing system from Alpha & Omega Integrated Control Systems, tuning the application and investing in two additional processors for its Hewlett Packard 9000 T500.

According to Camelot Systems Manager Tim Oberschlake, the last piece of the puzzle was to solve the I/O contention problem Camelot was experiencing with Oracle, especially on complex joins and queries. "Our operation is very data dependent, and as a result we

have significant amount of database access, which is very I/O intensive," he said. "The Oracle and CPU upgrades as well as the application rewrite did very little or nothing to address this problem."

Industry: Retail

RDBMS: Oracle 7.0

Application: Decision support, OLTP & batch

Hardware: HP 9000 T500

DES Products:
Database Excellerator,
Model 800T

Camelot Installs Database Accelerator for Temp Tables

Camelot opted to solve the problem by storing its heavily accessed Oracle temp tables on a solid state database accelerator provided by Database Excelleration Systems (DES). Accessing the temp tables via a high-speed DES system enables Camelot to perform complex queries and joins very quickly, conduct arbitrary sorts at very high speeds, as

well as create indexes dynamically.

"We incorporated the DES Excellerator into our environment as part of an architectural upgrade to improve our Oracle database performance," Oberschlake said. "Our database is 60 Gigabytes so we obviously have a lot of disk, and we found we had a lot of issues with I/O contention in the database. Oracle treats the DES system like a disk drive, but the DES system imposes virtually none of the I/O delays associated with disk access," said Oberschlake. "We use it just on the heavily accessed areas of the Oracle database."

For example, Camelot had one particular Oracle SQL statement that was taking up to two hours to run. Camelot changed the SQL statement to use a sorting algorithm that took advantage of the DES system, and the statement ran in less than 10 minutes. "Anytime we sort or create indexes, its blindingly fast," said Leif Fellague, Camelot's Database Administrator.

Camelot's environment consists of a 6-processor HP 9000 T500 with over a Gigabyte of memory, Oracle 7.0 with 350 tables and 80-90 user log-ins, and Oracle Forms 3.0. The DES system is a simple SCSI-attach to virtually any Unix or NT server. It is engineered to appear to the system as "another disk drive". Camelot's DES Database Excellerator is 500 Megabytes in size.

New System Exceeds Expectations

The bottom line is Camelot has succeeded, and in fact, exceeded its internal goals and expectations with its new system. Performance improvements have been implemented in all functional areas; order processing has been streamlined from 22 hours to 8 hours, for example. On one particular day, the Camelot merchandising system went down, eliminating the merchant's order filter to the distribution system. The system was able to process 980,000 units that consisted of 500,000 order

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lines involving 99 separate customer orders. The next day Camelot processed 830,000 units. “With the previous sys-

tem, Camelot would not have been able to come close to handling that volume, leaving orders unprocessed,” Oberschlake said.

Camelot believes it has designed a system that is not only easily handling Christmas season volumes, but can handle a great deal more. In fact, Camelot is initiating a “visioning project” that will investigate how to better utilize new technologies and functional processes to further its competitive advantage.

