DES

DATABASE EXCELLERATION SYSTEMS™

Customer Application

DES and BEA Associates

B*EA Associates, a New York investment management firm, solved its crucial system availability problem by moving Sybase tempdb onto solid-state Database Excellerators from Database Excelleration Systems (DES). Daily system crashes of its critical production portfolio management and accounting database, caused by heavy system use and contention for resources, were beginning to impact business. Installing two DES Database Excellerator™ models have virtually eliminated these problems, stabilizing and enhancing their database environment.*

Since installing the DES Database Excellerators, BEA has upgraded and added new UNIX database servers. The Database Excellerators transitioned effortlessly, continuing to provide improved database performance, which preserved BEA's investment in DES and helped restore credibility within the organization.

Daily System Crashes

"As we headed toward the end of the trading day, I could guarantee you that our Sybase server was going to crash," recalled Steve Buckridge, senior vice president of systems and technologies for BEA Associates, a division of Credit Suisse, which manages about $28 billion

in assets. "Everybody was trying to wrap up their trades as some markets were getting ready to close, and the system would crash because the log in *tempdb* was filling up. Frankly, it couldn't have been happening at a worst possible time."

Industry:	Financial
RDBMS:	Sybase 4.92
Application:	Decision Support, OLTP
Hardware:	HP9000 K400
DES Products:	Database Excellerator, Models 800T & 800D

"Every day was a crisis," Buckridge continued. "We got very good at identifying what reports not to run at particular times to minimize the system crashes, but the overall management of the application got to be more of an art than a science, which was unacceptable. "We had tried everything Sybase suggested to ease the contention issue, but nothing worked. Then on August 1, 1994 we moved *tempdb* on to solid-state systems from DES and our system has not

crashed since. So I can say with a high degree of confidence that our problem was solved solely by implementing DES into our client/server environment."

Information Backbone Lifeblood of Company

BEA's 8-Gigabyte Sybase SQL Server 4.92 database running on a four-processor HP 9000 K400 database server is the information backbone of the company, supporting BEA global trading. The system runs 24 hours a day, 7 days a week. "We run about 22 hours each day in production mode, while the remaining system is off line taking back-up" said Buckridge. "From a systems standpoint, it is to a large extent the lifeblood of the company. It supports all aspects of the investment operation."

That might be an understatement. The Sybase database allows portfolio managers to perform "what if" scenarios; it's used on the trading desk to support the trading activity; by the settlement area for the electronic settlement of trades; by the auditing area for the reconciliation of portfolios; by the client reporting group for the production of statements addressed to the clients; by the security file administration areas to set-up securities and on-line restrictions for portfolios and guidelines; and by the

marketing department in pitching new clients. BEA uses a Novell NetWare 3.1 network to support its 200 user system, with 150 simultaneous users the norm. The database is stored on conventional disk storage subsystems running fast wide SCSI.

BEA maintains two identical HP database servers to ensure data availability, but also to provide timely access to historical data. "In our environment, where timelines are key, there is no reason for anybody to tie up our production database by making historical inquiries," Buckridge said. "Sybase doesn't necessarily operate very well if an auditor decides they need to see transactions for the last year on a portfolio," Buckridge quipped, "so we maintain one server for production and another for historical queries. Historical is yesterday."

Database Excellerators Eliminated I/O Bottlenecks and System Crashes

All BEA temporary work files are stored in *tempdb*, which exceeds one-Gigabyte daily. "*tempdb* was creating a major I/O bottleneck for us," Buckridge said. "The way we got around the bottleneck was by having the car that it rides in be capable of much higher speeds, and that's where DES fits into the picture. By moving *tempdb* on to the DES system, we have eliminated the I/O bottleneck, thus eliminating our system crashes.

"Our daily crashes were beginning to affect the firm's ability to efficiently conduct its business," Buckridge contin-

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> *Sr. Vice President of*
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ued. "In some markets we serve, settlements must occur within 24 hours, otherwise the firm is fined 100 percent of the value of the transaction. I don't want to minimize the contribution of the DES system in stabilizing and enhancing our database environment. We haven't had a system crash since we installed the DES system, he said. "The business benefit resulting from this is that we now get trades out in a timely manner, we get trades entered into the system in a timely manner, as well as get them out to the banks and brokers who need to have the trading information as well," Buckridge added. "The DES system is well-engineered and highly reliable. The DES repair man must be a lot like the Maytag guy. They don't have a hell of a lot to do."

Flawless System Migration with DES

BEA added the current HP database servers in the fourth quarter of 1995,

replacing 10-processor Pyramid systems. The CPU upgrade has gained them an additional five-fold performance improvement. Because the DES systems are SCSI-based, BEA was able to move the two DES systems to the new UNIX environment without modification. "The transition in taking the DES systems over to the HP 9000s was flawless," Buckridge said, "We simply configured them for the new HP servers and they were fully operational. So if you will, we preserved our investment in the DES systems." According to Buckridge, relational database vendors still have not been able to address the I/O contention issue facing high transaction and/or query intensive environments. "Frankly, I think the I/O issue is currently best addressed by products like the DES solid-state system," Buckridge concluded. "You can design the hell out of a database but I think each one of the relational vendors each have their idiosyncrasies or parameters within which you must operate. There is all the marketing hype from the RDBMS vendors and then there is the reality. The DES system has helped us solve our key Sybase idiosyncrasy.

"The credibility that we had lost within the organization was enormous," Buckridge said. "It's now a pleasure to come to work – our stock is very high at this point. We're being pulled into situations that we wouldn't have before because of our recent successful track record. We have DES to thank for contributing to our image makeover."