



Efficient Java Access to Mainframe DB2 Data

Optimizing Mainframe Resource Usage and Decreasing Mainframe Costs

The Challenge: Mainframe Hobbled by Java Apps Accessing DB2

In a 24/7 world consumers expect to be able to quickly access their most up-to-date financial and credit information anytime, anywhere, from any device. This is a major challenge for the financial, credit and retail industries where corporate data is on their mainframe systems, and the applications that need to access it are not. As more and more consumers are using evermore online services the volume of transactions is leading to mainframe performance degradation and these industries are facing rising resource usage and rising operating costs, in the millions of dollars, in-order to avoid the ire of their customers.

Financial institutions did not have this problem when consumers went to the bank to access their financial information as the volume of requests was much lower and the request for information was made in-house. Now consumers can retrieve their information through the internet via personal computers but because the new applications providing this access and the databases that have the information needed don't speak the same technical language, translation is required.

Here's the path of resistance. Consumers - Java application users – send their queries via the web to the Java server which then connects with the mainframe and DB2 (database) via an SQL query. These dynamic SQL queries place a heavy load on the database, and each SQL query results in a very large number of I/Os. Together, this slows the pace of processing down. Institutions can purchase more MIPS to improve their processing power but this is a costly and temporary solution. They need a viable solution that keeps their customers happy – providing the information they need in a timely manner - and keeps their mainframe costs down.

The Solution: Busting the Java to DB2 Bottleneck

DataKinetics, the leader in critical information systems optimization, took on this challenge for one of its customers, a large US bank. In looking to optimize the data path, a solution that works in conjunction with its tableBASE product was developed that reduces resource usage by 90%. Here's how it works. The SQL queries from Java apps are mapped to DB2 stored procedures that are used to route requests to tableBASE in-memory tables or when necessary, the DB2 database. Hosting reference data in in-memory tables in the mainframe, but outside of DB2, reduces the number of I/O calls to DB2, and drastically reduces the processing required by SQL queries. MIPS usage is greatly reduced and because requests to the in-memory tables take much less time than I/Os to the database the processing time is significantly faster. The DB2 and tableBASE results are combined into an array which is sent back to the Java server and then on to the consumer which further optimizes the data path.

The Result: DB2 Resource Usage Drops by 90%

By taking this approach to ensure the most efficient access of Java applications to highly referenced DB2 data, mainframe resource usage is reduced, resulting in mainframe cost reductions. Even as more Java applications come online the benefits of DataKinetics tableBASE and Java to DB2 Optimizer solution are maintained as resource usage and costs are still controlled. Implementing the solution takes as little as 60 to 90 days.

The Technology: A History of Proven Performance

DataKinetics®, the leader in mainframe transaction and performance optimization, enables the top 7000 data centers in the world to overcome their mainframe batch window, performance and capacity challenges. In business for 30 years, DataKinetics delivers distinct competitive advantage to global Fortune 500 companies with products that power nearly a billion mission-critical transactions per second every day for the world's largest banking, insurance, credit card, brokerage house and retail organizations. Our new product, Java to DB2 Optimizer further extends the ability of DataKinetics to optimize mainframe performance for critical applications. www.dkl.com