jBASE

jBASE Enables Migration to a Group Standard Database – DB2 – Without a Major Rewrite and at an Economic Cost

The Problem

But what do you do when your business is growing this fast while your computer system is running out of steam? Their entire operation was dependent on a Sequoia system running an application that was being continually enhanced. "The risk was in the timing," explains Alan Paterson, Project Manager for Strategic Architecture Migration (SAM), "Our business was outgrowing the system very swiftly and there was no obvious upgrade path." First Direct is fully owned by the HSBC Group, one the world's largest banking and financial organizations. So there was an additional requirement: to be consistent with the parent company, the solution had to support DB2, which of course the existing system did not.

"Our business was outgrowing the system very swiftly and there was no obvious upgrade path."

–   **ALAN PATERSON**,
Project Manager for
Strategic Architecture Migration (SAM)

The words "British Bank" -- conjure up visions of hallowed marbled hallways, lofty vaulted ceilings, and whispered transactions. Well, think again! First Direct Bank has more monitors than mahogany.

As the UK's first and leading 24 hour person-to-person bank, you can't stand on ceremony; and adding an astonishing 11,000 new customers a month, you can be anything but stodgy. This youthful, energetic enterprise attributes their success to their professional and responsive service. The key is their highly trained Banking Representatives. First Direct customers can call these Representatives anytime of the day or night to make their personal banking transactions, including paying bills, managing credit cards and getting loans, right over the phone. The entire organization revolves around making each and every telephone transaction that the Representatives perform accurate and efficient – and you can't accomplish this without an effective computing infrastructure.

The Choices

The choices were to completely rewrite or migrate. The investment in their Basic application was substantial to say the least -- and continually growing. It was decided that the only realistic option was to migrate the application and integrate it with DB2. But migrate to what? It was now November of 1996, and First Direct was exploring various options. Long familiar with jBASE Software, the company, First Direct experimented with jBASE, the product, on NT along with other software packages. After extensive functional testing, including the re-direction of data to DB2, jBASE was settled on. "Nothing else was as flexible", states Paterson, "especially when you consider the DB2 requirement." The jBASE decision was made; First Direct was free to use any major operating system. The tender went out to bid with jBASE as a requirement. With DB2 in the picture, IBM was a natural consideration for their hardware platform. In April 1997, a feasibility study began to see if the jBASE/hardware combination was up to task. Several factors were measured. How easily could the functionality be transferred? With hundreds of Banking Representatives taking thousands of calls a day, scalability was a critical factor. The system performance had to be at least as good. And how would jBASE Software Ltd. perform? How quickly could they turn around problem calls?

Feasibility

The application was ported and tools were written to simulate user load. First Direct, with help from jBASE, built their own DB2 jEDI driver. It was important that the DB2 jEDI be well understood by the First Direct developers as all the user data is stored in DB2 and would be logged to a secondary site as well. First Direct would continue benchtesting for the better part of the year, including simulating 1500 users at the IBM's Montpelier Benchmarking Center in France.

"We were absolutely sure it would perform," states Paterson, "and it did." The end of 1997 brought the confidence that his was the solution and the way forward. Business cases were developed and approved and purchasing began. On February 1, 1998, First Direct purchased a license for 2000 jBASE users. First Direct knew it could work, now came the effort to ensure that it would work. Ringing in the New Year brought the functionality testing phase. IBM equipment was installed on-site and First Direct began moving the whole application. The differences between Sequoia Pick and
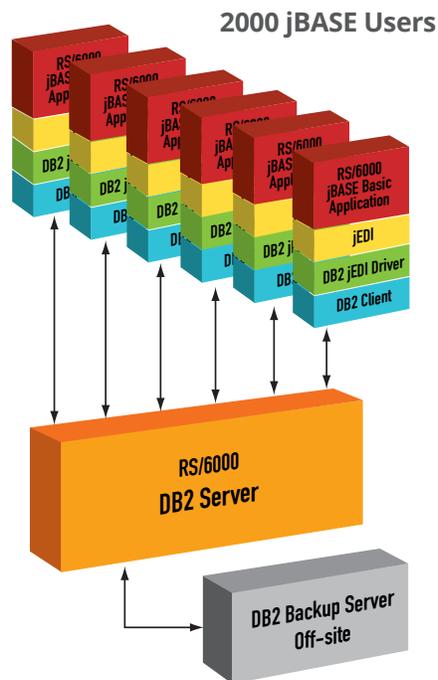
jBASE were ferreted out, and with assistance from jBASE Software, were resolved. Extensive performance testing was also carried out in this phase.

SAM 300

Nothing is ever done in isolation here at First Direct, there is no ivory tower for IT, and it was time for active user involvement. It was time for SAM 300. Three hundred Banking Representatives volunteered to test. These three hundred people would then go back and tell all their coworkers about the new system and whether it was an improvement -- or not. This was a very visible public relations event to set expectations of the users and the senior management. At 5am, one Wednesday morning in the Spring of 1998, 300 real users started testing the system. The SAM 300 testers, uniformed in yellow t-shirts, found that the system worked and was faster than they expected; meanwhile green shirted assistants waited to help and found they had little to do.

Although well planned, SAM 300 was a high risk, high reward situation -- and it paid off. The project had reached a tangible achievement and had a reference point to measure against. "NOW it gets hairy," says Paterson, "We had worked for nearly nine months toward Implementation. Nothing could be permitted to go wrong." It should be remembered that during this time the application had continued to be upgraded. The whole application needed to be ported. Batch processes were cleaned out and only those that were actually needed were moved. And then there was the data. There were serious design issues to be considered in converting multivalued data into the tabular format of DB2 and decisions were made about how to handle these in jEDI. Also, jBASE supplied a specialized transaction logger, which logged the transactions on the live Sequoia system, which could then be applied to the new system in an attempt to keep the data in parallel. Operational testing continued throughout the summer. By the end of the summer, the application was stable. Team testing was done where the Banking Representatives did their own banking on the ported application simulating running the whole system with real transactions. Meanwhile, the pressure was growing. New customers continued to join and the Banking Representatives were desperate for better response times.

2000 jBASE Users — RS/6000 jBASE Basic Application / jEDI / DB2 jEDI Driver / DB2 Client — RS/6000 DB2 Server — DB2 Backup Server Off-site

Set the Date

The "go live" date was set for November. The application code had been frozen a few months earlier, and last minute changes had been reduced to a minimum. Freezing the code was one thing, but you can't freeze your entire 7 x 24 personal banking operation! Not one call could be missed, not one transaction lost. So began several days of complex tape maneuvers involving backing up the Sequoia to tape and restoring to the jBASE system. Naturally, in a business this active, keeping up with the tapes was no small feat so again the expertise of jBASE Software was much appreciated. At 11pm on Friday, November 6th, the cut over began. In a few well-choreographed hours, cables were pulled from the old system and plugged into the new.. The systems were brought up and the final tape updates were applied. By 6:30am, users were up and running. Paper backup was taken for the first couple of hours, but soon it became clear that it was not necessary. The number of concurrent users on Day One reached 600. There was a minor problem on Monday morning, on reaching 950 users, which was quickly resolved. The go-live had caused no customer disruption at all. This all sounds quite anticlimactic -- and it was. Which of course means that it was an absolute success!

The Results

After a week of operation, there had been a high of 1250 concurrent users. Today, First Direct consistently runs that many users -- and more, unthinkable on the old system. And, because the new system can handle far more throughput there is much more processing going on day after day. Service levels and the response times to customer calls are vital to First Direct's business. Due to the improved performance of the system, the Banking Representatives were spending less time dealing with each customer

> The go-live had caused no customer disruption at all. This all sounds quite anticlimactic – and it was. Which of course means that it was an absolute success!

request, meaning the customer spent less time on the phone line and the next customer had to spend less time waiting. Therefore, the enhanced system performance directly improved service levels. This represents thousands of saved man hours and an increase in customer satisfaction. To First Direct, jBASE was the key to moving forward. It has enables them to move into the future -- a future that includes mainstream tools and DB2. jBASE's unique jEDI architecture has enabled First Direct to migrate to a group standard database – DB2 – without a major rewrite and at an economic cost. Paterson credits a great deal of the success to a strong partnership. "The relationship existed at all levels, management, functional, and seriously technical." he says, "This is a complex application and a demanding environment. jBASE gave us the attention we needed." Today, the teamwork continues. First Direct is experiencing tremendous growth and supports the business transactions of nearly one million customers. And in this dynamic environment, providing customer facing, voice to voice banking, jBASE is involved in all aspects of the mission critical business. The jBASE solution was not simply a means to an end, but rather part of a continuous process incorporating new technologies. "Naturally, we can't sit on our laurels!" explains Paterson, "We are continually enhancing the application and bringing on new functions. We are confident that jBASE will be there." ■

About First Direct

First Direct is a wholly owned subsidiary of HSBC Holdings plc. The HSBC Group, with some 5,500 offices in 79 countries and territories and assets of 275 billion, is one of the world's largest banking and financial services organizations. First Direct's website is **www.firstdirect.co.u**k.