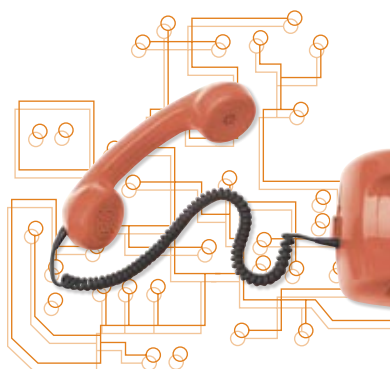


# BI Case Study

## Massive Data Volumes Call for Appliance Solution

Linda L. Briggs



**T**he challenge: Your client needs to query 100 billion call records in a highly complex environment, and the legacy data warehouse system needs a complete reengineering to put the new system in place. The sheer volume of data could be a prescription for trouble. Subex Ltd. recently deployed an appliance solution from Dataupia that has its client, British Telecom, so pleased that BT nominated Subex for its annual innovation award.

Subex rolled out Dataupia data warehouse appliances to replace a tape-based legacy data warehouse system for BT, a long-time Subex client. Subex, the large India-based global provider of operations support systems for the telecom industry and others, is no stranger to helping clients with large data needs—its customers include 32 of the 50 largest service providers in the world.

Dataupia, a relative newcomer to the data warehousing space (it was founded in 2005), is familiar with large data volumes. Its data warehouse appliances combine specialized software and industry-standard hardware in all-in-one packages that include server, storage, and optimization software in a single, out-of-the-box solution. The combination of specialized software and powerful processors allows large amounts of data to remain online and ready for use at any time, resulting in built-in high availability and speed.

Perhaps the biggest driver behind Subex' system reengineer for BT—which included revamping the data warehouse storing the records—was ensuring the reliability and accuracy of call records constantly coming in from BT's many suppliers and customers, according to Paul Skillen, president of the BT business unit for Subex.

In a nutshell, BT needed fast, reliable access to huge numbers of call detail records—something it was no longer getting from its legacy system. The new system had to be able to handle the capture of some 400 million records a day and to run analytics on more than 100 billion records in storage. With the move to Dataupia Satori Server, complex queries that previously would have taken weeks can now be performed in a few hours.

The legacy tape-based system also limited the number of queries that could be executed simultaneously; with the new system, numerous concurrent queries can be run. Subex also wanted the new system to perform complex queries

such as joins, which weren't possible before. "We wanted to increase the functional footprint of what we deliver to the client," says Prajay Shah, who is with BT Operations at Subex. "We wanted cost-effective performance."

To handle 150 terabytes of data, Subex installed 72 Dataupia Satori appliances and, incidentally, significantly reduced its power consumption. The new system is consuming just 10 percent of the power that was used by the relatively inefficient, power-hungry legacy system (with its servers and tape library).

The system's scalability was also key, since appliances can be added easily to the initial set. Subex can quickly add to or even double the initial deployment if needed, Skillen said.

"Rather than just replace like for like," Skillen explained, "we wanted to be able to give [the client] a springboard that would be a good balance of functionality, performance, and value."

### **Appliance Model Attractive**

Another reason that Satori Server made sense, Shah said, was Dataupia's appliance-based model. Because the hardware, operating system, and database are integrated by Dataupia, it gives Subex a single supplier to take ownership and accountability. "That's very, very useful. I've been in the business quite a while now. Sometimes with problems, it's one vendor passing

the problem to the other vendor, and we're in the middle. With this model, we won't have that problem."

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In terms of a return on investment, Skillen said, based on feedback from the client at the six-month point, the system had already paid for itself. Savings come from increased efficiencies for BT's call center business, as well as the fact that Subex delivered the system as a managed service, thus taking on the responsibility of implementation and integration.

The managed service model is one that Subex is finding increasingly appropriate these days, especially for non-core business activities. Clients typically appreciate the up-front cost savings, Skillen said, and the ability to avoid the big up-front cash investment and major installation costs that are typical with projects of this size and scope.

"Because we were able to offer this as a managed service for the client," Shah explained, "it's remained cash-positive for the client."

The actual system rollout took just three months, Shah said, including ordering the appliances from Dataupia, getting record layouts finalized for storing records, preparing the data center, setting up Oracle connectivity to the Dataupia environment, getting the backup infrastructure and reporting in place, and connecting to the client system.

One thing that helped the project along, Skillen stressed, was the solid relationship Subex maintains with British Telecom. Many years of working together—Subex had managed BT's legacy tape-based data system as well—had forged a close working relationship and general business goodwill between the two firms. Subex fosters a deep understanding of BT's business that helped the three-month rollout of the new system proceed smoothly. "We've been running the [legacy] system and its predecessors," Shah said, "for the last 19 years."

### **Familiar Interface for Users**

The new solution seamlessly interfaces to the Oracle system already in use at Subex. For users at BT, that means the look and feel is familiar; for technical staff at Subex, the Dataupia system "dove-tailed neatly into what we were doing" without a steep learning curve during setup, Skillen said.

A typical user might be a business analyst or mid-level manager analyzing whether a product is profitable, for example, but might also be a BT employee involved in handling queries for reconciliation or other issues. “There’s everything from dispute handling and profitability analysis through fraud protection and revenue assurance,” Shah said.

The backend systems that the Dataupia appliances interface with are interconnected billing-based applications developed by Subex. Those systems use Oracle, Shah explained, “and we didn’t want to put in another system where we had to learn any other database languages. We wanted it to be transparent because all our users are very familiar with Oracle.” Using Oracle also virtually eliminated any need for user training.

A challenge with any new system is making users aware of its capabilities. With the Dataupia project, Skillen said, Subex has worked through ascending levels of awareness among users. First has been simply apprising users of the legacy system of the scope and capabilities offered by the new setup. Then, as users start to appreciate the new system’s potential and to ask more of it, Skillen said, they begin to develop new ideas about what they could do with the data and the analytic capabilities it offers.

The third level of user awareness, Skillen said, is ongoing—to leverage BT’s investment by publicizing

the system to other potential users within BT, letting them know that it is available. Extending the powerful new system’s footprint within BT, he conceded, will take time. Since BT’s core business essentially deals with telephone calls and call records, that means plenty of users at various levels throughout the company who are interested in reporting and analysis capabilities on the call record database.

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To stretch the economic viability of the new system, it simply makes good business sense to publicize it. For that reason, Skillen said, “we’re encouraging more and more people to get involved with it and start to see what it can do. That’s going to take a little bit of time.” ■

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