INFOBRIGHT

CUSTOMER CASE STUDY

Industry: Mobile Analytics

Overview

Headquartered in the United Kingdom, Bango provides technology that powers commerce for businesses targeting the growing market of internet-enabled mobile phone users. Bango's products collect payment from mobile users for on-line content and services, and provide accurate analytics back to mobile carriers and content providers about marketing campaigns and user behavior. The world's leading brands, as well as thousands of smaller content providers and developers, use Bango products to more effectively run their mobile businesses.

Challenge

Bango Analytics is delivered as a hosted online solution, offering data collection, campaign tracking, page tracking and other services for mobile carriers and content providers. In addition to online data such as page views and clicks, Bango tracks mobile-specific information such as device model, manufacturer, and user identity data. This enables its customers to better understand subscriber behavior, optimize mobile marketing campaigns and drive higher advertising rates, all in real-time, unlike other analytics solutions.

More than 60 million unique mobile subscribers from all over the world are identified by the Bango system, and as the company's business has grown, so has the massive volume of data that needs to be stored, loaded and made available to its customers for analysis. With tens of millions of records coming in every day, query performance was a growing challenge because Bango's SQL Server-based database needed to be scaled-up to provide the performance required at higher data volumes. When Bango signed one of its largest customers to date—a well-known global media provider with analysis requirements that encompass more than 150 million rows and 450 Gigabytes of mobile data each month— the company knew that it needed a solution that could help it quickly and cost effectively scale its business while delivering the performance that customers with large data volumes demand.

Evaluating Alternatives

Bango evaluated a number of data management alternatives in their quest for a high performance, cost-effective solution that could be implemented quickly. The company was interested in finding a new approach to the challenge of dealing with large data sets.

The alternatives considered were:

- *Cloud-based solutions*
- *Data warehousing as a Service*
- *Hardware-based appliances*
- *Software*

Because cloud-based solutions would allow Bango to scale out massively, but would eliminate the need for Bango to procure and maintain hardware, this approach was initially considered an attractive alternative. Bango quickly realized, however, that they would need to re-design and completely redevelop their whole analytic application to make this work, and concluded that the development effort required would be too expensive and time-consuming. Concerns about the speed at which large data sets could be loaded to the cloud were also a factor in ruling out this option.

Data warehousing as a service was also considered, but decided against for a number of reasons. First, there are only a few companies providing this service, all of which are fairly immature. Bango also felt that, like cloud-based approaches, it would be hard to load big data, and that the time needed to evaluate this option by doing a proof-of-concept would take far too long.

A massively parallel hardware-based appliance was reviewed as "brute-force" alternative, but rejected because it was neither cost-effective nor considered "ground-breaking" by the technical evaluators at Bango.

Finally, a number of software-based solutions were evaluated. After eliminating those that offered nothing new or innovative in solving the "big data" challenge, Bango turned to Infobright.

Solution

When Tim Moss, the Chief Data Officer of Bango looked at Infobright's web site, the first thing he noticed was the focus on online analytics, including case studies and relevant white papers. As he and his team investigated the Infobright technology, they believed they had found the "clever solution" they were looking for. What's more, since Inforbright offered a freely downloadable, open source version, Bango could immediately try out the software to determine whether it would meet the company's needs.

"We found it extremely easy to setup and install Infobright," said Tim Moss. *"The open source product is a very effective way to do a thorough evaluation. In 30 minutes we had it up and running, and were quickly able to determine that this was a plausible solution."*

One of the things that Bango's team liked best about Infobright is that there are no indexes to create or maintain. With the SQL Server database alone, indexing more than doubles the size of the raw data. SQL Server, like most databases, requires indexes tuned to specific queries to deliver fast query performance. Infobright's technology however, delivers fast query response for all queries without the need for indexes, so it enables Bango's customers to do ad-hoc queries without performance penalties.

"Accommodating customer demand for a broader set of queries was problematic using SQL Server," added Moss. *"We'd have to add even more indexes, doubling the size of the database yet again with each additional index, which in turn would require more storage. Infobright's high data compression capabilities allow us to shrink the database considerably. More importantly, it lets our customers run ad-hoc queries without requiring development effort or customization, optimization or tuning from my team, so we can easily deliver the performance needed."*

In fact, Bango realized that in many cases the more complex the query, the *faster* the response time with Infobright, as the solution's innovative Knowledge Grid architecture filters out even more irrelevant data when processing the query. This level of performance convinced Bango to select Infobright Enterprise Edition (IEE). Bango was able to deploy IEE in just a few months, with minimal development and administrative effort. This was predominantly focused on porting the SQL queries, and building the new ETL processes, which would be necessary with any solution. However, they did not need to spend much development time changing their existing web-based (.NET) reporting front end.

Results

With IEE, Bango is able to support the analytic needs of its customers, both large and small, with significantly faster query performance against increasing volumes of data than it could before. Infobright's unique column-oriented database, innovative architecture and data compression capabilities give Bango the ability to quickly load massive amounts of mobile data and enable complex, ad-hoc queries in seconds without indexes, manual tuning or complex administration.

For example, IEE enabled Bango to run a report that included ten million events in just 22 seconds—a fraction of the 5 minutes that that the same query takes using SQL Server. Even more remarkable, a report with 150 million events that did not return a result using SQL Server took 564 seconds with IEE.

"Query performance is critical because mobile carriers and content providers need to know as much as possible, in as close to real-time as possible, about who is visiting their sites, how subscribers use their mobile content or devices, and how they are responding to marketing offers and campaigns," said Ray Anderson, CEO of Bango. *"Infobright*

enables us to deliver rich analytics to our customers within minutes of transactions occurring, which ultimately gives them the ability to make better and faster business decisions.”

The data compression that Bango is seeing with IEE is equally impressive. Data that required 450GB of storage using the SQL Server required only 10GB with IEE. This has allowed Bango to easily accommodate its largest customers and grow its business without having to invest in expensive hardware and storage capacity.

“Infobright gave us a fast, simple and affordable way to support the expansion of our business and the increasing data demands that come with growth,” said Ray Anderson, CEO of Bango. *“Even more impressive, it allowed us to not just maintain the current performance level of our analytic solution, but actually improve it, which directly answers our customers’ urgent demands for mobile intelligence.”*

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