

# Analytics Firm Provides Resort Network with Crystal-Clear Answers Using Google BigQuery Service and Google App Engine



## At a Glance

### What they wanted to do

- Help Center Parcs Europe accurately forecast number of vacationers, optimize prices and increase revenue
- Develop a system that requires little technical maintenance

### What they did

- Built an application using Google App Engine, Google BigQuery Service and other Google tools
- Created an easy-to-use interface that minimizes the need for technical assistance

### What they accomplished

- Made it easier for Center Parcs Europe to access booking information, set pricing and maximize income
- Avoided purchasing hardware costing hundreds of thousands of dollars to host the application in-house
- Reduced the time to run queries from several minutes to just seconds

## Organization

Crystalloids is an Amsterdam-based analytics firm that helps businesses analyze massive amounts of data to improve their profitability. Among its clients is Center Parcs Europe, which operates 16 bungalow villages for 3 million vacationers in the Netherlands, France, Germany and Belgium. Crystalloids helped build a cloud-based application that gives the resort network a clearer view into past sales so it can better target its customer base, optimize its marketing, increase revenue and save money.

## Challenge

Center Parcs Europe needed a way to forecast the number of vacationers visiting its locations across Europe and to determine optimal pricing for its accommodations. The company also wanted to identify its most effective marketing strategies in order to better target potential customers before popular vacation periods.

Richard Verhoeff, former commercial development director at Center Parcs Europe, first used Netezza, a data warehousing appliance, with SAP BusinessObjects, a business intelligence tool. But these products did not provide the quick insights he needed to track booking trends effectively.

“We had to get all of the data over into Excel and then format the reports, which became very tedious,” he recalls. “Then we would have stacks of papers on our desk, comparing this year’s occupancy rates with last year’s and trying to identify problems.”

Verhoeff approached Crystalloids founder Quintus-Filius Grens to come up with a faster, more user-friendly solution. They tried other systems, including Microsoft’s SQL Server Analysis Services with Microsoft Excel and QlikTech’s QlikView, but both fell short because of scalability issues or operational difficulties.

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*“Google BigQuery Service makes it possible to examine millions of records in seconds. Speed is an essential part of our application, and BigQuery Service gives us that.”*

*—Richard Verhoeff, founder of Crystalloids Innovations*

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## Solution

Verhoeff learned about Google BigQuery Service, a cloud-based service for large-scale data analysis, at Google’s annual I/O conference in May 2010. He and Grens decided to build their own application to solve Center Parcs



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## About Google App Engine

Google App Engine allows businesses to build and host web apps on the same infrastructure that powers Google's applications, permitting fast development and deployment. Google BigQuery Service is a web service that enables companies to analyze massive datasets – up to billions of rows in seconds – using Google's infrastructure. Scalable and easy to use, Google BigQuery Service lets developers and businesses tap into powerful data analytics on demand using familiar SQL query language.

For more information about Google App Engine, visit [www.code.google.com/appengine](http://www.code.google.com/appengine)

For more information about Google BigQuery Service, visit [www.code.google.com/apis/bigquery](http://www.code.google.com/apis/bigquery)

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*“Google takes care of requirements like scalability, security, backup and recovery and management features, so we get to focus on the functional requirements – what business users need to perform their job in an optimal way.”*  
—Quintus-Filius Grens, founder of Crystalloids and Crystalloids Innovations

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Europe's data problems using Google App Engine, BigQuery Service and other Google tools. Verhoeff had built several web applications using Google App Engine and was familiar with its benefits, including fast deployment, easy administration and automatic scalability.

Verhoeff and Grens loaded Center Parcs Europe's data into Google Cloud Storage and then into Google BigQuery Service. Using the web application's user interface, users can focus on specific data by simply clicking a button – for example, to see booking information for a particular country or to isolate a certain time frame. BigQuery Service executes the underlying data analysis in seconds; since the analysis is performed interactively, there's no long offline wait for results. Verhoeff and Grens then used the Google Visualization API to transform the query results into user-friendly charts and graphs.

According to Verhoeff, the application's most distinguishing feature is its speed. “Google BigQuery Service makes it possible to examine millions of records in seconds,” he explains. “Other business intelligence solutions could take eight minutes to come back with an answer. That's much too long. Speed is an essential part of our application, and BigQuery Service gives us that.”

## Results

Center Parcs Europe employees are tracking booking trends easily, and the application has allowed them to adapt their marketing tactics to maximize revenue. The team now spends much less time managing the application, and the company is saving up to \$150,000 per year in operational costs. Reports that took an entire day to run now take Verhoeff just seconds to get the same answer.

Center Parcs Europe also avoided an upfront investment of nearly \$800,000 in hardware and software to host the application in-house, Verhoeff says. In addition, the move freed Verhoeff and Grens from spending additional money on application features that come standard with Google.

“Google takes care of requirements like scalability, security, backup and recovery and management features, so we get to focus on the functional requirements – what business users need to perform their job in an optimal way,” Grens says.

The success of the application inspired Verhoeff and Grens to launch Crystalloids Innovations, a subsidiary of Crystalloids that builds cloud-based software for hospitality and retail companies based on Google App Engine and Google BigQuery Service.

