



CASE STUDY

Improving Database Performance Earns Rave Reviews

FASTER

Response times when accessing the restaurant review portal

NEW

Applications come to market faster, improving competitive position

8-9X

Improvement in throughput for database queries

“ Pure Storage allows you to do more with your existing resources.”

JOE YAU

CHIEF OPERATING & TECHNOLOGY OFFICER, OPENRICE

OpenRice offers restaurant reviews to millions of users throughout Asia. When performance of its spinning-disk storage threatened the responsiveness of the OpenRice portal, it was replaced with a Pure Storage FlashArray. The website is now faster and more responsive, and its database of users is leveraged more effectively.

Managing Huge Database of User-Generated Content

OpenRice is a comprehensive restaurant review portal serving Hong Kong, Macau, China, Taiwan, Thailand, Malaysia, Singapore Indonesia, The Philippines, and Japan. Founded in 1999 and headquartered in Hong Kong, OpenRice lists over 1.9 million restaurants, has more than 2.7 million registered diners, and serves up more than 9 million page views per day.

Applying a proprietary algorithm against a huge database of purely user-generated contents including ratings, reviews and other UGC elements, OpenRice applies “Smiley Face,” “OK” or “Crying Face” logo to each restaurant. In recent years, the platform has evolved to accommodate both computing and mobile platform and has added many social functions.

OpenRice is a subsidiary of the JDB Group, where Joe Yau is Chief Operating and Technology Officer. He notes a number of challenges for OpenRice from an IT and operational perspective.

“We need to serve our customers with a high frequency of reading and writing of data, such as submitting food photos and restaurant reviews. Moreover, we are adding more functions, like social interactive functions, that require login and authentication. Competitive pressure requires us to enter into new fields of Online-2-Offline such as booking table, food takeaway service, bargain-but-quality coupons, real-time discount offers, meal vouchers and more renovated services for our industry. All of these put an increasing burden on the whole application architecture as well as our processing and storage resources.”

The desire to add functionality was partly hampered, however, by the lagging performance of OpenRice’s legacy spinning-disk storage system. “We found that traditional hard-disk storage technology has I/O limitations that were degrading performance of our portal,” Yau says. “With ever-increasing traffic to our site, we have to handle greater volumes of database hits without damaging the user experience for our customers.”

In addition, Yau says, the lagging storage performance prevented OpenRice from expanding its plans for virtualizing and scaling out its database servers. The company needs its IT infrastructure to perform at peak efficiency and reliability.

“ One way to describe the impact of Pure Storage is that it’s the same as giving someone a tool with which they can cook a meal eight to nine times faster—and the meal tastes better, as well.”

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Boosting Performance, Lowering Costs

To help solve its storage problems, OpenRice turned to ELM Computer Technologies, a leading Hong Kong provider of IT services. ELM recommended OpenRice to consider all-flash arrays from Pure Storage, because of their combination of performance, reliability, and ease of management.

A Pure Storage FlashArray was installed in OpenRice’s Hong Kong data center as part of a proof-of-concept trial, and the virtualized database servers were moved onto it. OpenRice noticed improvements immediately.

“During testing we saw that the Pure Storage array can generate at least 8 to 9 times higher throughput than the existing hard disk we are using without changing the server hardware specs,” says Yau. “Using flash memory relieved the I/O bottleneck. According to our data logger, Yau stated, “the effective I/O throughput is able to peak at 1.27 GB/s on reading and 1.24 GB/s on writing data,” resulting in improved response times of those direct database queries.



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The superior data compression provided by the Pure Storage array also saves OpenRice on database licensing costs, to the extent that the savings exceed the cost of acquiring the Pure Storage array.

Yau says that the data-compression capabilities of the Pure Storage array accelerates data retrieval using less storage space. “With such a fast storage array, we can architect our application structure to distribute read-write and read-only connections into different virtual instances. In this way, we don’t have to invest in expanding expensive enterprise database resources but can do linear scaling out to other data nodes using standard database setup with replication.”

Accelerating Software Development

Yau adds that the performance of the Pure Storage array “allows our software engineers refactor application flows so as to fully maximize the rational database servers’ computing power in addition of NoSQL technology. More time-sensitive functions can be developed on top of such application architecture.”

Yau also praises the Pure Evergreen Storage program offered by Pure Storage, which guarantees non-disruptive upgrades to the latest technology for an array under a support contract. Evergreen Storage provides certainty in budgeting for future growth, Yau said, while eliminating the cost and disruption of forklift upgrades.

“Pure Storage allows you to do more with your existing resources,” Yau observes. For example, IT staff resources that used to be spent on managing storage are now used for more productive tasks, such as designing an infrastructure that accelerates application development. In addition, the company’s valuable database of users and their comments is being leveraged more effectively.

“One way to describe the impact of Pure Storage,” Yau concludes, “is that it’s the same as giving someone a tool with which they can cook a meal eight to nine times faster—and the meal tastes better, as well.”

