

Oriental Overseas Container Line Cuts Development Cycle by 50%



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Oriental Overseas Container Line
Hong Kong
www.oocl.com

Industry:

Travel & Transportation

Annual Revenue:

US\$6.5 billion

Employees:

6,000

Oracle Products & Services:

Oracle Coherence Grid Edition

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Hong Kong-based Oriental Overseas Container Line (OOCL) is one of the world’s largest integrated container transportation, logistics, and terminal companies with 230 offices across Asia, Europe, North America, and Australasia. The company owns and charters vessels that carry general cargo, reefer cargo, and dangerous goods. It is a wholly-owned subsidiary of Orient Overseas (International) Limited, which is listed on the Hong Kong Stock Exchange.

OOCL leads the container transportation industry in its use of technology. In 2007, the company was looking for a more efficient and cost-effective way to improve response times in its core container line and logistics applications, and online subsidiary portal services.

“We were encountering data query performance issues and needed a solution to enhance our data access performance, make better use of our existing hardware infrastructure, and allow our applications developers to deploy new application functionality faster,” said Matthew Rosen, director of application development, Oriental Overseas Container Line.

In March 2009, OOCL implemented a Java-based distributed query cache framework, which utilized the Oracle Coherence Grid Edition, a component of Oracle Fusion Middleware. The solution has resulted in more predictable application response times for OOCL’s mission-critical applications, and improved the productivity of its application development teams.

Improved Application Response and Server Resource Management

With the Oracle Coherence framework in place, OOCL can cache “near static data”. This data resides in two applications used by sales staff to manage customer profiles, shipment activities and

Key Benefits:

- Enabled client applications to respond to any online request within five seconds rather than 45 to 60 seconds
- Allowed the company to better manage server resources and eliminated the need to invest in additional hardware
- Enabled application development teams to deploy new application functions 50% faster, improving productivity and allowing them to focus on other tasks

invoicing, and geographical information. It can be shared by multiple applications.

These applications query basic geographic information hundreds of thousands of times per hour, but the data changes very infrequently. “The best example of this is a geographic information system which includes names and hierarchical relationships between geographical locations such as the ‘Long Beach Terminal’ in ‘California’, in the ‘United States’,” explained Rosen.

“When applications query this information from the database, the query must be processed by the database, the data passed back to the application server, and the data mapped to Java objects.

“Individually, the query and mapping operations are fast but by caching these objects after they have been read initially, we can avoid using server resources to repeatedly query, transmit, and map the same objects again and again. This results in better resource management and more predictable application response times,” said Rosen.

Faster Response to Online Requests

Oracle Coherence also helps OOCL achieve its new service level objective of providing users with a response to any online request from its client applications within five seconds, compared to 45 to 60 seconds previously.

This response time is achieved by using a distributed cache that is shared by application servers. The first application server responding to the initial request can retrieve the full result set, return the first page, and then store subsequent pages in the cache.

“The application server that retrieves a request for the next page can then get it from the cache until all pages are retrieved. This helps us meet our application response time objective,” said Rosen.

Application Development Times Reduced

Oracle Coherence has enabled OOCL to deploy a shared distributed cache, which reduces the time it takes to publish changes to shared data and involves far less development.

“In some cases, application servers must share data items that are updated frequently, and this shared data is applied consistently so

that each application server sees the same shared state,” said Rosen.

“A shared distributed cache eliminates the need to publish changes to shared data so that all application servers can receive and update their local copy of shared data. This takes the pressure off our development team and saves time.”

As a result, developers can focus on deploying new application functions quicker. “Our development teams can deploy new application functions 50% faster for client applications that are involved with this shared state,” said Rosen.

In August 2009, OOCL will extend the query cache framework across its shipment execution plan application, which monitors shipment activities and records if certain milestones are reached during the shipment cycle.

“We will soon start applying this framework to applications that require more sophisticated and aggressive caching strategies,” said Rosen. “As our comfort level with the technology improves, we will be able to do query results that have been previously executed by the applications, which will result in more efficiency and performance improvements.”

Why Oracle?

OOCL looked at a few solutions in the marketplace before selecting Oracle Coherence. “The solution allows development teams to work with standard Java objects and there are no new concepts that they have to master,” said Rosen.

“The automatic server synchronization and dynamic rebalancing features of Oracle Coherence are powerful. For example, if you are distributing cached data over four servers and one goes down, the solution rebalances the load across the remaining three servers,” he said.

“Oracle Coherence is a useful solution to have in the toolbox particularly as we are trying to get more and more out of our existing hardware.”

Implementation Process

The project began in August 2008 when OOCL’s framework development team put together a plan around how various applications would make use of Oracle Coherence. “Our developers and technical staff spent time with Oracle Consulting

to determine deployment requirements, how to configure the system, and the network capabilities that were required,” said Rosen.

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