xsigo systems

CUSTOMER SUCCESS

GLOBAL BANK ACCELERATES ORACLE, CUTS COST WITH XSIGO

Achieved 5X the database capability for half the cost of Oracle's Exadata

This specialist bank and asset manager provides a diverse range of financial products to clients in the UK, South Africa and Australia. Founded nearly 40 years ago, the firm now has nearly 10,000 employees, with over 500 employees in the IT organization.

BUSINESS CHALLENGES

The database team of the Firm's Private Bank division supports all database operations using a combination of Oracle RAC and Microsoft SQL servers.

When the group's expanding operations required an upgrade to the database environment, the IT managers had several objectives.

The first requirement was flexibility. Because new business offerings often place substantial new requirements on DB operations, the IT managers needed the ability to quickly and non-disruptively scale the server platform when needed.

Second, performance was critical to ensure a superior customer experience. "Unlike retail banks, we do not typically serve customers face-to-face at branch locations," said the Private Bank division's head database administrator. "Rather, our high wealth clients and money manager clients usually interact with the firm online, often requesting complex queries that may span very large data sets. As a result, fast database response times are critical to the customer's perception of our systems."

OPTIONS CONSIDERED

To optimize the performance of the new Oracle cluster, one element needed in the operating environment was clear: it needed to include InfiniBand as the cluster interconnect. The firm's IT managers knew that InfiniBand's low latency would both allow the DB clusters to grow larger, and would increase performance when compared with Ethernet interconnects.

OVERVIEW

INDUSTRY
Banking, wealth management

CHALLENGES
- Increase IT flexibility to accommodate new lines of business
- Boost transaction performance to provide a superior customer experience

SOLUTION
- Two Xsigo VP780 I/O Directors, InfiniBand DDR 20Gb server fabric

BENEFITS
- Up to 20X faster query time
- 2X average improvement in database response time
- 5X more servers deployed for ½ the cost of Oracle Exadata
- Can independently modify configurations at any time
- 66% less hardware complexity than traditional I/O

"Xsigo has delivered a huge speed improvement for us, allowing us to widen our cluster footprint and provide a more robust, high-performance setup."

- Head DBA of the Private Bank Division

Oracle's own Exadata system employs InifiniBand for this reason, so Exadata was the first option considered by the database team.

Upon further study, however, the team concluded that Oracle's Exadata system would be very costly and would limit their flexibility. With Exadata, Oracle would in effect "own" the configuration, requiring that the company bring in Oracle staff every time a configuration change was needed, thereby raising costs and significantly slowing the change process.

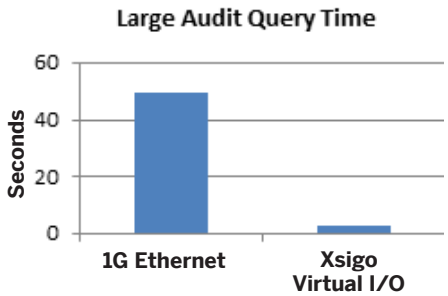
Seeking better options, the team also looked at using conventional X86 servers combined with Xsigo I/O Directors, equipped with an InfiniBand fabric. Like Oracle Exadata, this would use InfiniBand as the cluster interconnect, thereby delivering the same low latency and superior scalability. Furthermore, Xsigo would consolidate the server's Ethernet, Fibre Channel and cluster interconnects to just two cables per server, thus reducing hardware complexity by 66% vs. other alternatives.

XSIGO DELIVERS 5X THE CAPABILITY AT HALF THE COST

When the database team compared solutions, they found the Xsigo solution reduced costs significantly. In fact, they found they could accommodate far more IT needs at less cost. For about half the cost of Oracle Exadata, it was possible to deploy 5X the number of servers, giving them resources needed for DR facilities, development servers, and standby devices. Ultimately the Oracle RAC configuration deployed consisted of Xsigo I/O Directors and Dell R710 servers running with Oracle Enterprise Linux. EMC VMAX provided the storage. The result was a more robust, more capable, more easily scaled environment, and one that executed the core mission with performance equivalent to Oracle Exadata at half the cost.

PERFORMANCE RESULTS

Compared to the previous infrastructure, significant performance gains were achieved across the board. Queries were complete 2X more quickly on average, with some operations generating even greater improvement. Large audit query times dropped 95% in one case, from 4 minutes to 11 seconds. In another case they were reduced by 94%, from 50 seconds to 3 seconds. Small queries showed similar improvements, now being measured in milliseconds rather than seconds.



FUTURE EXPANSION PLANS

Based on the success of the Oracle deployments, the bank is looking to expand the Xsigo deployment to include their SQL servers as well, in both their virtualized and bare metal environments. The head DBA concluded, "We are working towards running more databases in a virtualized environment, so it is especially critical to minimize latencies to make sure we deliver the same great user experience from the virtualized servers. The Xsigo Server Fabric provides the ideal platform for this by allowing us to connect virtual machines and bare metal servers without ever having to cross the core switching infrastructure."

A MAJOR WIN FOR THE FIRM

Summing up the project, the final comments were, "This project has been a major win for us. When running over a million queries per hour, the performance improvements we've gained with Xsigo have a huge positive impact on the clients' perception of our systems."

The Xsigo VP780 I/O Director consolidates server I/O by replacing a server's multiple Ethernet and Fibre Channel interfaces with a single high-speed low-latency link.

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CSGB-0911