



In a Flash: SanDisk® Beats Your Biggest Oracle Application Performance Challenges

Is your Oracle data center straining under expanding workload volumes while your IT staff struggles to meet escalating performance expectations? If you are spending too much on new server hardware and software application licenses but still not keeping up with demand, it is time to consider adding flash memory technology to your data center.

At a high level, SanDisk flash technology addresses seven primary use cases: OLTP, operational data stores, data warehouse, OLAP, Oracle RMAN backup, Oracle Data Pump, and Oracle migrations to Oracle 12c..

Specifically, you should look at PCIe-based flash technology like Fusion ioMemory™, which brings high speed storage capacity onto the server — close to the CPU and the application workloads themselves — to fast-track application performance. Fusion ioMemory, now the foundation of storage and memory giant SanDisk's PCIe Flash portfolio, is widely regarded as the standard for the technology.

Fusion ioMemory can supply the performance boost your business needs to support higher transaction volumes and process data faster. And because your servers can do more work in less time, you can consolidate the number of servers in your data center. The result is a more efficient and more productive environment with a substantially better cost structure.

Architectural Advance

The SanDisk Flash memory technology helps you optimize your data center infrastructure. You can expect big productivity gains — the kind that helps your business make better decisions faster, expedite transactions and speed response times.

Fusion ioMemory tackles all of your major pain points associated with both Online Transaction Processing Applications (OLTP) and Online Analytical Processing (OLAP) applications. Flash breaks through the bottlenecks that impede Input/Output

Operations Per Second (IOPS), making flash storage a cost-effective solution for many typical I/O bottlenecks of an Oracle database such as redo logs or undo tablespaces.

Fusion ioMemory can also address your top performance issues with data warehousing and analytics applications running on Oracle, including throughput challenges. Flash can also be a practical solution to reduce overhead associated with pass sorts in Temp Tablespace.

At a high level, SanDisk flash memory technology addresses seven primary use cases: OLTP, operational data stores, data warehouse, OLAP, Oracle Recovery Manager (RMAN) backup, Oracle Data Pump, and Oracle migrations to Oracle 12c. The technology also addresses challenges that OLTP and OLAP applications share, including performance issues associated with hot tables and indexes, data loads, audit trails, and database backups.

Proof Points

Consider the case of Santa Monica College, a community college serving 34,000 students on six campuses in California that was struggling to keep up with increasing online enrollment even as budget cuts translated into fewer classes. This resulted in a serious slowdown during registration when the database sagged under a flood of new requests during one enrollment period.¹

Aware that registrations would continue to grow beyond classroom capacity, Santa Monica College worked to modernize its database architecture to eliminate the latency that clogged the registration process. The college chose SanDisk flash, a solution that in testing processed 5,000 enrollments per minute. This effectively corrected the latency issue, resulting in an almost immediate return on the school's investment.

Flash memory technology can be an equally powerful solution for an OLAP application. Syntricity, a provider of a hosted data analysis solution for semiconductor manufacturers, was struggling to come up with a way to resolve performance issues that were putting its business at risk.² The company's dataConductor.com application runs on an Oracle data warehouse that processes 250,000 datalogs each month containing billions of test measurements and consuming 150 GB of data warehouse storage each day.

Supporting customers that require exceptional performance for their own success, Syntricity reacted quickly to adapt its infrastructure when clients complained about analysis and report generation being too slow. Syntricity deployed several Fusion ioMemory cards and reported almost immediate results. The flash drives lowered latency on the Oracle database and applications and also eradicated network latency impacts by moving the entire database from the storage area network (SAN) onto the server. Syntricity also streamlined its architecture, slashing operating and support costs and eliminating the need to add more servers — and with them,

additional licenses.

Even more impressively, Syntricity improved its business intelligence courtesy of a significant boost in performance that can range from a 30% improvement to as much as 5x increase. This allows a company like Syntricity to deliver far bigger data sets to its clients far faster than ever before.

Flash Returns

In an era where enterprises balk at upfront capital costs, you might be reluctant to make any new investment. However, the big picture view shows flash technology will pay a fast return, and then some.

You need to look at the cost per transaction when weighing your options. You also need to consider scale: Flash technology doesn't necessarily have to be deployed on every data center server. You can invest small and scale out as circumstances change.

The benefits are clear: Flash memory technology drives performance improvements that in lead to revenue gains. SanDisk flash takes out inefficiencies helping remove cost, increase speed and scale better. The result: an optimally performing Oracle environment that can not only handle increased workload demands better and more cost-effectively, but can also achieve the best business results.

To find out more about what flash technology can do for your business, contact your SanDisk sales representative for a demonstration or a proof of concept to see how Fusion ioMemory can help you optimize your Oracle environment.

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