

Supercharge Oracle database infrastructure

HPE ProLiant DL380 Gen9 Database Accelerator Solution for Oracle

Get cost-effective scalability, performance, and high availability in a flash-optimized solution powered by SanDisk.

Breakthrough solution performance

More than 1 million IOPS in the primary server running Oracle 12c (TPC-C-like workload) while the second, stand-by server is reading data at 16 GB/s (TPC-H-like workload)¹

A more cost-effective database environment

Save capital expenditures (CAPEX) and operating expenditures (OPEX) with an integrated, purpose-built database acceleration solution built on the cost-saving and management simplicity features of HPE ProLiant technology.

Scalability to meet growing needs

Raise service levels and support growth needs with flexible deployment and configuration options. This All-Flash, two-server solution scales from one to six HPE PCIe Workload Accelerators (available in capacities up to 38.4 TB) per HPE ProLiant DL380 Gen9 Server. You can also scale by adding more servers to the cluster.

A better solution

Real-time performance demands flexible, yet powerful, solutions that allow you to do more, faster. Adding in-server flash memory is the key to delivering new levels of technical and cost efficiencies for today's Oracle database environments. As your database grows along with performance and service-level agreement (SLA) demands, the need to provide more cost-effective capabilities per server—handling complex, high-capacity workloads—becomes more important, as do the high availability (HA) features that keep your data protected. And, planning for scalability and containing costs is increasingly important.

At Hewlett Packard Enterprise, we understand how critical your database is. That's why we're offering the All-Flash Database Accelerator Solution for Oracle with HPE ProLiant DL380 Gen9 Servers configured with HPE PCIe Workload Accelerators, powered by SanDisk. Placing your critical data on SanDisk flash-based HPE PCIe Workload Accelerators with microsecond data access latency—directly in the server—enables higher database performance acceleration while also achieving more work per server.

This tested and proven solution combines the performance, cost savings, and availability features of HPE ProLiant with the power and speed of flash-based HPE PCIe Workload Accelerators. The result is a better platform for your primary Oracle online transaction processing (OLTP) workloads. One that

offers cost-savings—including lower software license fees—and new levels of scalability and performance.

Solution advantages

- **Lower CAPEX**—Use affordable, high-performance, in-server flash-optimized storage instead of adding dozens of hard disk drive-based (HDD) storage arrays
- **Lower OPEX**—Reduce ongoing costs with innovations that lower the use of energy, floor space, and management resources
- **Scalability**—Easily scale by adding more or higher capacity accelerators, as well as additional servers
- **High performance**—Significantly improve application performance compared to traditional storage systems utilizing hundreds of HDDs
- **High IOPS**—The standard hard disk limits of most storage systems restrict IOPS to, for example, ~380 4K IOPS per 6G SAS 15k rpm hard drive. Each HPE PCIe Workload Accelerator has the potential to deliver up to 350,000 4K IOPS—equivalent to ~920 hard drives¹
- **Low latency**—HPE Workload Accelerators connect directly to the server PCIe bus with ultra-low, 5 microsecond data access latency¹
- **Reliability and HA**—The two-server solution provides HA and enterprise-grade reliability for business-critical database workloads

¹ Testing details: Two servers running Oracle 12c, each configured with six 6.4 TB HPE PCIe Workload Accelerators, connecting with Oracle Active Data Guard and ASM. Performance measured with TPC-C-like test on primary server with TPC-H-like test on stand-by/failover server.

Solution brief

HPE ProLiant DL380 Gen9 Database Accelerator Solutions for Oracle



Testing results

- 1 million+ IOPS in a single server
- HA and enterprise-grade reliability
- 38.4 TB capacity per server
- Cost-effective, small footprint
- Highly-scalable with the ability to easily add PCIe Workload Accelerators and servers, as needed
- Microsecond data access latency
- Maximize technical/cost efficiencies
- Reduce complexity and software costs

Reliability

HPE PCIe Workload Accelerators from SanDisk are tested and proven to give you better performance, reliability, and compatibility with all Gen8 and Gen9 HPE ProLiant rack and blade servers.

Our solution partner

SanDisk

² Source as of 03 April 2014; Intel internal measurements on platform with two E5-2697 v2 (12C, 2.7 GHz), 8 x 8 GB DDR3-1866, RHEL6.3. Platform with two E5-2697 v3 (14C, 2.6 GHz, 145 W), 8 x 8 GB DDR4-2133, RHEL6.3.

³ Based on similar capacity DIMM comparing HPE server vs. non-HPE server with DDR4, July 2014.



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Partners you can rely on

Start with Oracle Database 12c

Oracle Database 12c includes database innovations that deliver new levels of efficiency, performance, security, and availability. Running Oracle on HPE servers and in-server flash accelerators supercharges your database infrastructure.

HPE ProLiant DL380 Gen9 Servers

Get reliability, serviceability, and near continuous availability—all backed by a comprehensive warranty—from the data center standard for business-critical Oracle database environments. Designed to reduce costs and complexity, the HPE ProLiant DL380 Gen9 Server leverages Intel® Xeon® E5-2600 v3 processors for up to a 70 percent² performance gain, plus the latest HPE DDR4 SmartMemory supporting 1.5 TB and up to 14 percent³ performance increase. It also features support for 40 Gb NIC with a broad range of graphics and compute options.

The HPE ProLiant DL380 Gen9 Server simplifies management for more cost savings, with powerful new capabilities for automating and simplifying system deployment, maintenance, and troubleshooting.

HPE PCIe Workload Accelerators

SanDisk Fusion ioMemory powered HPE RI, VE, and LE PCIe Workload Accelerators push the performance density envelope as an in-

server solution with flash memory capacities up to 6.4 TB each. With enterprise-grade reliability, high endurance, and consistent, microsecond data access latency, these have been architected to dramatically scale and accelerate your Oracle Database 12c performance. This solution easily scales beyond two servers, supporting datasets of up to 38.4 TB (6 x 6.4 TB) per server to deliver the real-time data access performance your business demands.

Let's make it happen— together

Simple to size, deploy, and scale, the Oracle Database Accelerator Solution featuring HPE ProLiant DL380p Gen9 Servers with flash-based PCIe Workload Accelerators cost-effectively accelerates your most complex, high-capacity Oracle Database 12c workloads. Accelerated transaction processing can drive increased productivity and enhanced user experience and service levels, which, along with the impressive cost savings, translates to better competitive ability.

Learn more

HPE PCIe Workload Accelerators

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