

Handle more user requests
65% more orders per minute*



Run more workloads on each server
60% more VMs*

Refresh to HPE ProLiant DL380 Gen10 servers with Toshiba PX05S Enterprise SAS SSDs and do more*

Expand your customer base and consolidate workloads

Imagine you drive a cab for a living. The time to buy isn't when your vehicle breaks down and forces you to stop working—it's while your cab still has life left. That way you can avoid unplanned business downtime while reaping the daily benefits of better gas mileage, increased safety standards, and a more comfortable ride—for you and your passengers. The same applies to datacenter hardware: Investing in a server refresh makes good business sense.

To show how refreshing your hardware could help you, we compared two solutions in the Principled Technologies datacenter: the latest HPE ProLiant DL380 Gen10 server with Toshiba PX05S Enterprise SAS 12Gbps SSDs versus an older Gen9 model with SATA SSDs. Despite being just one generation apart, the HPE ProLiant DL380 Gen10 with Toshiba SSDs handled significantly more database work than the older solution, helping serve more customer requests and consolidating workloads by supporting more virtual machines (VMs). This means you could grow your customer base and reduce the number of machines you have to store, power, and maintain, which could help reduce operating costs.

Don't let your aging hardware leave you stranded on the side of the road. Moving to a new HPE ProLiant DL380 Gen10 server with Toshiba Enterprise SAS SSDs could be an investment that sets you up for continued success.



*compared to an HPE ProLiant DL380 Gen9 with SATA SSDs running virtualized database workloads

The costs of inertia, datacenter edition

Like a cab driver, you may be satisfied with your current ride. Your customers and employees can access your databases and your business keeps moving. But what could this comfort be costing you? You need only look to the latest technology to see how it can outpace your current gear.

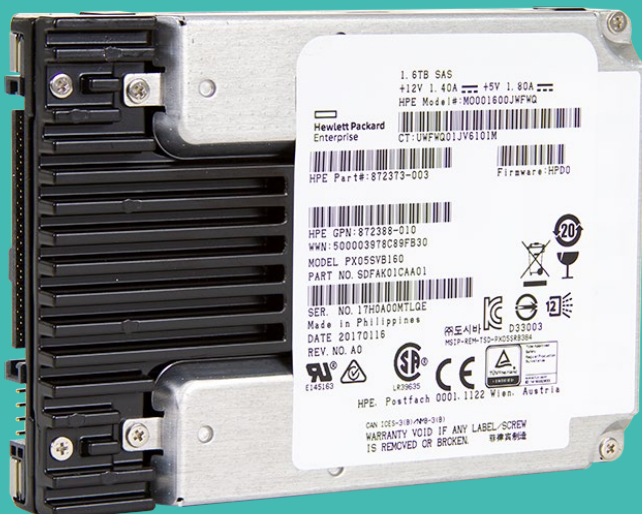
The drawbacks of legacy hardware include:

- Aging hardware has wear and tear and may break down more, forcing you to spend more admin time maintaining it
- Lower and slower performance, because older hardware lacks the latest innovations
- Security features may be out of date, leaving you susceptible to attacks and viruses—and as a result, downtime

These factors mean that considering a refresh is a wise choice, no matter how long it's been since you made your last server investment. Updating could be worth it for your business.

The way we tested

We set up our competing solutions in the same datacenter and ran each database test three times, reporting the median run. Both solutions used VMware® vSphere® as the hypervisor supporting their VMs. The new HPE ProLiant DL380 Gen10 server used eight Toshiba Enterprise SAS SSDs and 128 GB of RAM. The older solution used eight legacy SATA SSDs and 64 GB of RAM. To complete our tests, we used the DVD Store Version 2 benchmark. To learn more, check out the science behind the report.



Toshiba PX05S Series Enterprise SAS SSDs

Toshiba markets PX05S Series Enterprise SAS SSDs to customers dealing with mixed-use and write-intensive tasks, including virtualized datacenters, big data analytics, and high performance computing. Available in storage sizes ranging from 200GB to 1.6TB, Toshiba PX05S Series drives “deliver a unique customer-tunable power and performance feature allowing optimization for power efficiency or maximum performance.” For more information, visit <https://business.toshiba-memory.com/en-us/product/storage-products/enterprise-ssd/px05shbxxx.html>.



A look at the new HPE ProLiant DL380 Gen10 server

The HPE ProLiant DL380 Gen10 server is a two-socket server that features the Intel® Xeon® Scalable processor family (the server we tested had two Intel Xeon Gold 6130 processors) and 24 DIMM slots that can support from 128 GB to 3 TB of memory.

According to HPE, the DL380 Gen10 server offers numerous flexibility, security, and performance features, including:

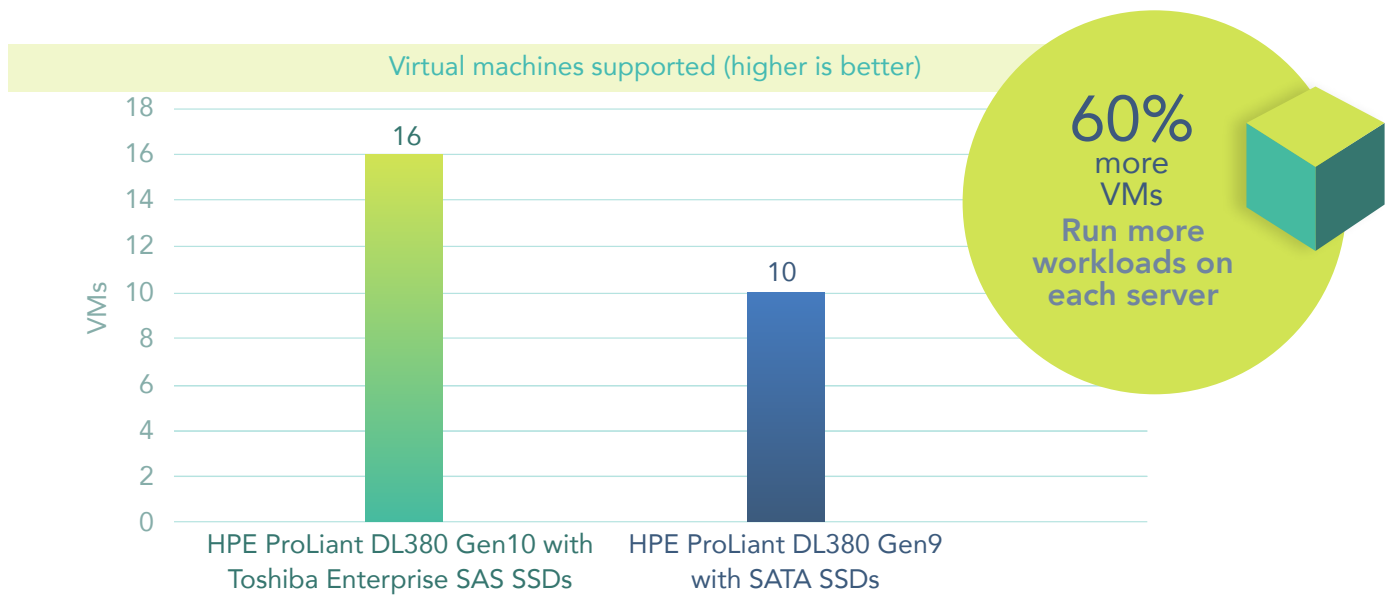
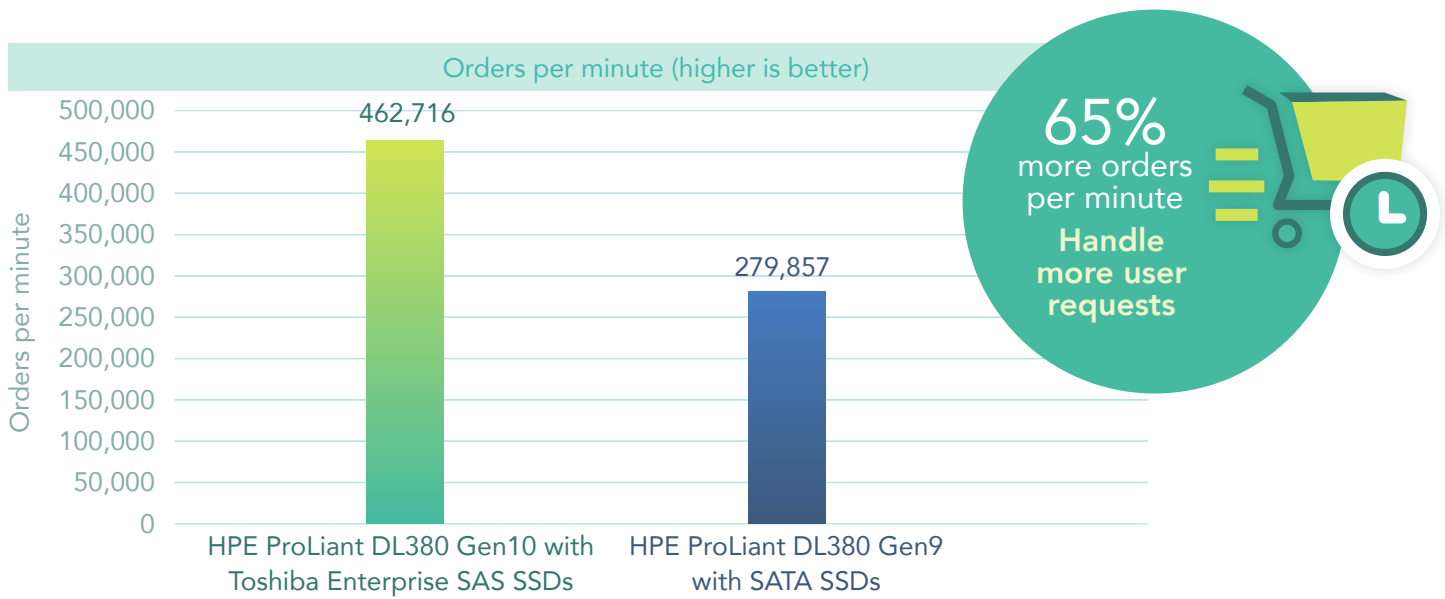
- An adaptable chassis with new modular drive bay configuration options
- Silicon Root of Trust, which anchors major firmware into the silicon
- Intelligent System Tuning, which HPE claims “optimizes workload performance using customized profiles to tune internal resources”¹

To learn more about the HPE ProLiant DL380 Gen10 server, visit www.hpe.com/us/en/product-catalog/servers/proliant-servers/pip.hpe-proliant-dl380-gen10-server.1010026818.html.

See how much difference a generation makes

We aren’t talking Baby Boomers vs. Gen X here. Servers even one generation apart can have a gulf between them when it comes to performance and capabilities, and the tests we ran in our datacenter prove it.

We found that by moving to a new HPE ProLiant DL380 Gen10 with Toshiba PX05S Enterprise SAS SSDs from a Gen9 of the same model with legacy SATA SSDs, you could see a transactional database performance increase of 65 percent. The server achieved that orders per minute (OPM) score dispersed over a greater number of virtual machines—increasing the VM count by 60 percent.



If your server can handle a larger customer load, you can do more work with one server. When you move to a server that can also handle more virtual machines, you can consolidate your virtualized database workloads onto fewer physical servers. The move toward density and consolidation can free up your physical datacenter space, reduce operating costs such as port costs and heating and cooling, and lower your maintenance expenses.

About our benchmark: DVD Store Version 2

DVD Store 2 (DS2) models an online DVD store, where customers log in, search for movies, and make purchases. DS2 reports these actions in OPM that the system could handle, to show what kind of performance you could expect for your customers. The DS2 workload also performs other actions, such as adding new customers, to exercise the wide range of database functions you would need to run your ecommerce environment.



Drive into the future with the latest HPE ProLiant DL380 Gen10 with Toshiba Enterprise SAS SSDs

Successful businesses are always looking into the future, assessing which investments can help them expand their customer base while staying profitable. Your datacenter hardware may be one area where investing makes sense; after all, your business can't function without your servers churning day in and day out. A business without functioning servers is like a cab driver with a broken-down vehicle: Your ability to profit stops.

The HPE ProLiant DL380 Gen10 with Toshiba Enterprise SAS SSDs significantly outperformed an older server running legacy SATA SSDs. With more orders per minute while running database workloads, the HPE ProLiant DL380 Gen10 processed dramatically more requests than the older server with legacy SATA drives. If you want to help more customers, give them a better user experience by supporting more of them with ease. By refreshing, you could support more customers and consolidate virtualized databases onto fewer systems, improving your bottom line.

1 HPE Gen10 Servers, accessed May 25, 2018, www.hpe.com/us/en/product-catalog/servers/proliant-servers/pip-hpe-proliant-dl380-gen10-server.1010026818.html.

Read the science behind this report at <http://facts.pt/wphw6p> ▶



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This project was commissioned by Toshiba.