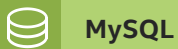


Process up to 1.48x the MySQL Database Transactions with Intel® Xeon® processor-backed Alibaba G7 Instances vs. Alibaba G6a Instances



Complete 1.48x the MySQL database transactions per minute on G7 instances with 3rd Gen Intel Xeon Scalable processors
vs. G6a instances



Get better value with G7 instances featuring 3rd Gen Intel Xeon Scalable processors
vs. G6a instances

Get More for Your Money with Alibaba G7 Instances Featuring 3rd Gen Intel Xeon Scalable Processors

When you're shopping for cloud instances to host your MySQL databases, it's important to choose an instance that can provide the performance you need. While storage contributes significantly to OLTP database performance, the CPU also plays a large role, and choosing just any compute-intensive instance may not be enough. For OLTP databases, Alibaba G7 Instances enabled by 3rd Gen Intel® Xeon® Scalable processors can offer greater performance—and greater value—than G6a instances with AMD EPYC processors.

HammerDB benchmark tests used an OLTP workload to compare four sizes of MySQL databases on Alibaba instances (see Figure 1).

Table 1. Names of the tested Alibaba instances with their vCPU configurations

Instance name		vCPUs
G7 3 rd Gen Intel Xeon Scalable processors	G6a 2 nd Gen AMD EPYC processors	
g7.2xlarge	g6a.2xlarge	8
g7.4xlarge	g6a.4xlarge	16
g7.8xlarge	g6a.8xlarge	32
g7.16xlarge	g6a.16xlarge	64

Not only did the G7 instances featuring 3rd Gen Intel Xeon Scalable processors provide up to 1.48x the transactions per minute of G6a instances, but they also delivered better value than G6a instances, providing a larger performance increase than cost increase. With each instance doing more work, you could consolidate your database instances, reducing your cloud costs without affecting performance.



Relative MySQL Database Performance

Relative transactions per second | Higher is better

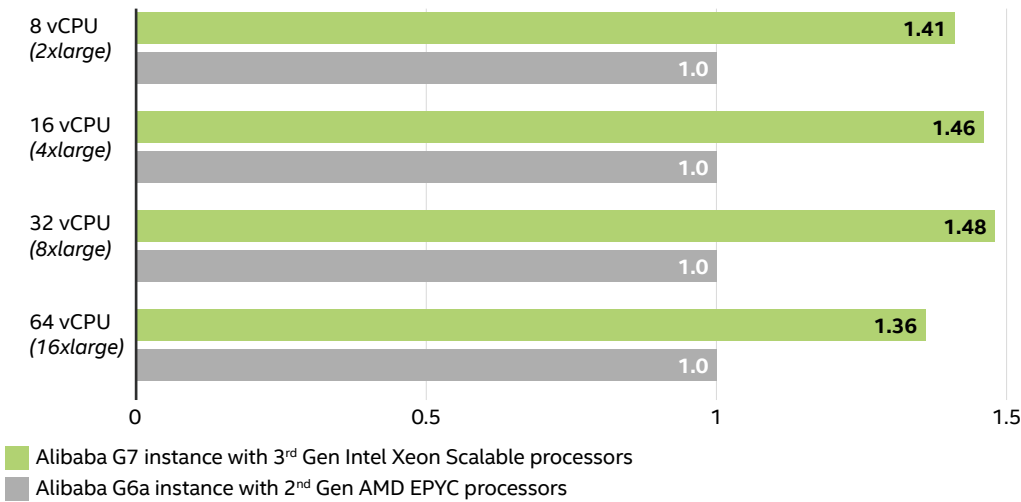


Figure 1. Relative results comparing the MySQL database transactions per minute of G7 instances vs. G6a instances at four different vCPU instance sizes.

G7 Instances Delivered Better Performance

As Figure 2 on the previous page shows, G7 instances enabled by 3rd Gen Intel® Xeon® Scalable processors outperformed G6a instances at all four vCPU counts tested, with improvements ranging from 1.36x to 1.48x as many MySQL database transactions per minute.

G7 Instances Provided Better Value

Performance is an important criterion for those selecting cloud instances, and cost is, too. While Alibaba lists the G7 instances featuring 3rd Gen Intel® Xeon® Scalable processors at a slightly higher price point than the G6a instances, the performance improvement outweighs the cost increase. The G7 instances cost at most 1.31x as much as the G6a instances, but they deliver up to 1.48x the performance. This means that you get more performance for your dollar with the G7 instances.

Based on these comparisons, companies that host MySQL databases in the cloud could meet goals for both performance and cost by choosing compute-intensive Alibaba G7 instances enabled by 3rd Gen Intel Xeon Scalable processors rather than Alibaba G6a instances with AMD EPYC processors.

Learn More

To begin running your MySQL workloads on Alibaba G7 Instances with 3rd Gen Intel Xeon Scalable processors, visit www.intel.com/alibaba.

Tests performed by Intel in June 2021 on Alibaba in region cn-shenzhen-f. Tested three iterations and selected median for result. Software used was Ubuntu 20.04.2 LTS with kernel 5.4.0-73-generic, HammerDB 4.0, and MySQL 8.0.22. All configurations ESSD PL3 1500GB storage with 76,800 provisioned IOPS, a 23GB innodb_buffer_pool_size, and a 400 warehouse database; other configuration details to follow. g6a.2xlarge: 8 vCPUs, 32GB memory, up to 10 Gbps network BW, AMD EPYC 7H12 CPU. g7.2xlarge: 8 vCPUs, 32GB memory, up to 10 Gbps network BW, Intel 8369B CPU. g6a.4xlarge: 16 vCPUs, 64GB memory, up to 10 Gbps network BW, AMD EPYC 7H12 CPU. g7.4xlarge: 16 vCPUs, 64GB memory, up to 25 Gbps network BW, Intel 8369B CPU. g6a.8xlarge: 32 vCPUs, 128GB memory, up to 10 Gbps network BW, AMD EPYC 7H12 CPU. g7.8xlarge: 32 vCPUs, 128GB memory, up to 25 Gbps network BW, Intel 8369B CPU. g6a.16xlarge: 64 vCPUs, 256GB memory, up to 16 Gbps network BW, AMD EPYC 7H12 CPU. g7.16xlarge: 64 vCPUs, 256GB memory, up to 32 Gbps network BW, Intel 8369B CPU. Pay-as-you-go pricing \$/hr as of August 2021: g6a.2xlarge - \$0.27, g6a.4xlarge - \$0.55, g6a.8xlarge - \$1.10, g6a.16xlarge - \$2.19; g7.2xlarge - \$0.356, g7.4xlarge - \$0.712, g7.8xlarge - \$1.424, g7.16xlarge - \$2.848.



Performance varies by use, configuration and other factors. Learn more at www.Intel.com/PerformanceIndex.

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure. Your costs and results may vary.

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