Support Up to 44% More PostgreSQL New Orders Per Minute on AWS m6i Instances Featuring 3rd Gen Intel® Xeon® Scalable Processors

Compared to m5 Instances with 2nd Gen Intel Xeon Scalable Processors, m6i Instances Delivered Consistently Stronger PostgreSQL Performance

Many organizations rely heavily on applications backed by PostgreSQL databases, in use cases ranging from ecommerce to web services to geographic tracking. When IT chooses to run these applications in the cloud, they expect—and require—strong performance. Amazon Web Services (AWS) m6i instances deliver: At multiple database sizes, m6i instances enabled by 3rd Gen Intel® Xeon® Scalable processors improved PostgreSQL performance over m5 instances with 2nd Gen Intel Xeon Scalable processors.

Stronger PostgreSQL Performance for Smaller Databases

HammerDB benchmark tests with an OLTP workload (TPROC-C) consistently showed m6i instances outperforming m5 instances with older Intel Xeon Scalable processors. As Figure 1 shows, 4-vCPU m6i instances featuring 3rd Gen Intel Xeon Scalable processors outperformed 4-vCPU m5 instances by 44%. And as Figure 2 highlights, 8-vCPU m6i instances delivered a similar increase in performance, offering 43% more new orders per minute (NOPM) than the m5 instances with older processors.

Normalized 4-vCPU PostgreSQL Performance
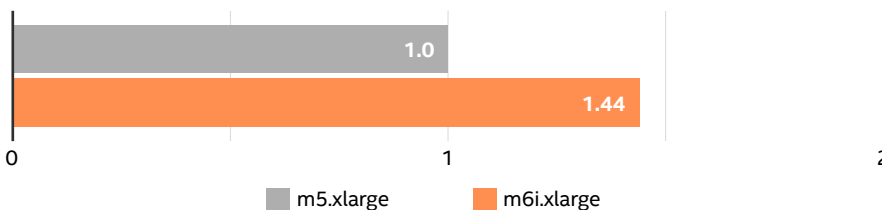Normalized NOPM | Higher is better

Figure 1. Relative PostgreSQL performance, in new orders per minute, of 4-vCPU m6i instances vs. 4-vCPU m5 instances. Higher numbers are better.

Normalized 8-vCPU PostgreSQL Performance
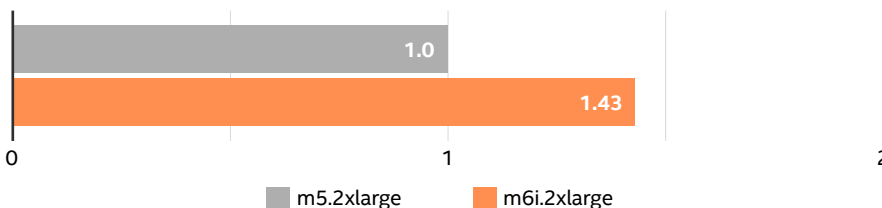Normalized NOPM | Higher is better

Figure 2. Relative PostgreSQL performance, in new orders per minute, of 8-vCPU m6i instances vs. 8-vCPU m5 instances. Higher numbers are better.

Intel Workload Proof Series: PostgreSQL on AWS m6i vs. m5

PostgreSQL

Support up to 44% more PostgreSQL new orders per minute with 4-vCPU m6i instances

vs. m5 instances

Support up to 43% more PostgreSQL new orders per minute with 8-vCPU m6i instances

vs. m5 instances

Support up to 26% more PostgreSQL new orders per minute with 16-vCPU m6i instances

vs. m5 instances

Stronger PostgreSQL Performance for Medium-Size Databases

At the larger 16-vCPU instance size, m6i instances with new 3rd Gen Intel® Xeon® Scalable processors again outperformed m5 instances with 2nd Gen Intel Xeon Scalable processors. Figure 3 shows the difference: 26% more new orders per minute.
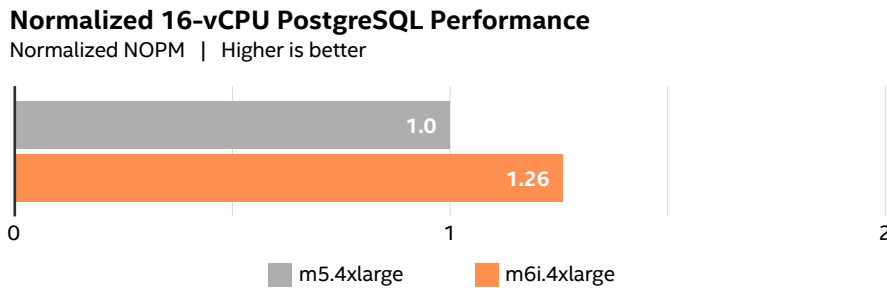
Normalized 16-vCPU PostgreSQL Performance
Normalized NOPM | Higher is better

Figure 3. Relative PostgreSQL performance, in new orders per minute, of 16-vCPU m6i instances vs. 16-vCPU m5 instances. Higher numbers are better.

Stronger PostgreSQL Performance for Larger Databases

As Figure 4 shows, large 64-vCPU m6i instances featuring 3rd Gen Intel Xeon Scalable processors provided 23% more PostgreSQL performance than the same-size m5 instances.
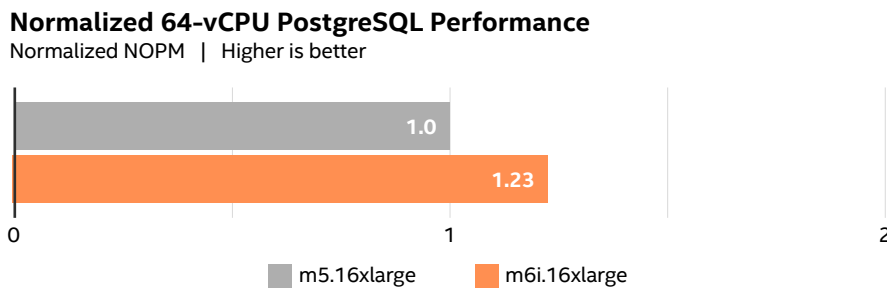
Normalized 64-vCPU PostgreSQL Performance
Normalized NOPM | Higher is better

Figure 4. Relative PostgreSQL performance, in new orders per minute, of 64-vCPU m6i instances vs. 64-vCPU m5 instances. Higher numbers are better.

Conclusion

Whether an organization needs small 4-vCPU instances, large 64-vCPU instances, or a size in between, they can benefit by choosing m6i instances enabled by 3rd Gen Intel Xeon Scalable processors, ultimately supporting more PostgreSQL new orders per minute than they could with m5 instances.

Learn More

To get started running your PostgreSQL workloads on AWS EC2 m6i instances enabled by 3rd Gen Intel Xeon Scalable processors, go to https://aws.amazon.com/ec2/instance-types/m6i/.