Achieve Better PostgreSQL Performance By Choosing AWS EC2 m6i Instances Featuring 3rd Gen Intel® Xeon® Scalable Processors

PostgreSQL

Support up to 24% more PostgreSQL new orders per minute with 4-vCPU m6i instances

vs. m6a instances

Support up to 15% more PostgreSQL new orders per minute with 8-vCPU m6i instances

vs. m6a instances

See Up to 24% More New Orders Per Minute with m6i Instances Enabled by 3rd Gen Intel Xeon Scalable Processors vs. m6a Instances Enabled by 3rd Gen AMD EPYC™ Processors

PostgreSQL databases are the IT backbone of companies in a wide range of areas, from retail to financial services to web services and beyond. The performance of these databases can directly impact customer experience (and therefore, revenue), so for organizations running PostgreSQL in the cloud, the choice of instance type is a critical one.

In HammerDB benchmark tests at four instance sizes, Amazon Web Services (AWS) EC2 m6i instances enabled by 3rd Gen Intel® Xeon® Scalable processors offered stronger PostgreSQL performance than m6a instances with 3rd Gen AMD EPYC processors. By handling more PostgreSQL new orders per minute (NOPM), m6i instances can sustain a larger customer base, complete database work faster, and reduce the number of instances IT must support.

See Higher PostgreSQL Performance for Smaller Databases

Organizations running even small databases could benefit from choosing m6i instances over m6a instances. As Figure 1 shows, 4-vCPU m6i instances enabled by 3rd Gen Intel Xeon Scalable processors outperformed their m6a counterparts with 3rd Gen AMD EPYC processors by 24%, while Figure 2 shows that 8-vCPU m6i instances boosted PostgreSQL performance by 15% compared to 8-vCPU m6a instances.

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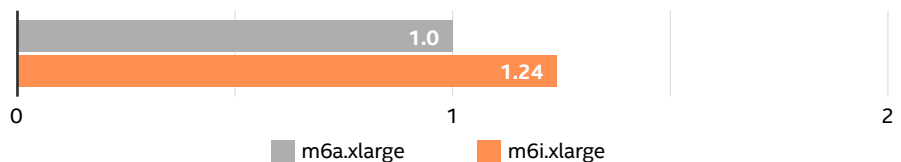

Figure 1. Relative PostgreSQL performance, in new orders per minute, of 4-vCPU m6i instances vs. 4-vCPU m6a instances. Higher numbers are better.

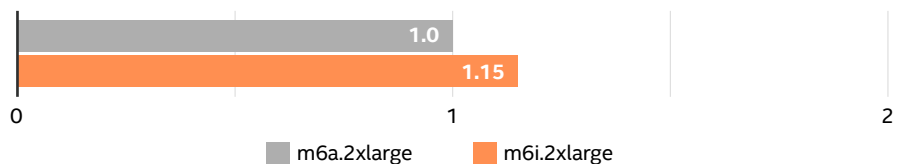### Normalized 8-vCPU PostgreSQL Performance
Normalized NOPM | Higher is better

Figure 2. Relative PostgreSQL performance, in new orders per minute, of 8-vCPU m6i instances vs. 8-vCPU m6a instances. Higher numbers are better.

See Higher PostgreSQL Performance for Medium-Size Databases

In HammerDB testing on 16-vCPU instances, the m6i instances enabled by 3rd Gen Intel® Xeon® Scalable processors continued to outperform the m6a instances with 3rd Gen AMD EPYC processors, here by 9% (see Figure 3).
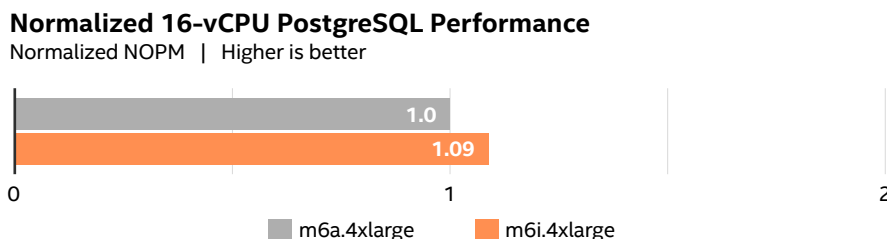
Normalized 16-vCPU PostgreSQL Performance
Normalized NOPM | Higher is better

Figure 3. Relative PostgreSQL performance, in new orders per minute, of 16-vCPU m6i instances vs. 16-vCPU m6a instances. Higher numbers are better.

See Higher PostgreSQL Performance for Larger Databases

As Figure 4 shows, larger m6i instances—those with 64 vCPUs—offered 13% more PostgreSQL performance than 64-vCPU m6a instances.
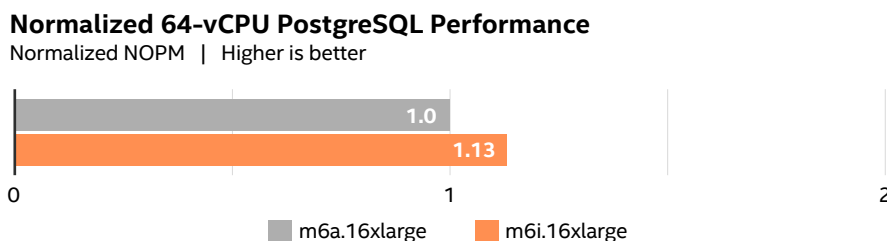
Normalized 64-vCPU PostgreSQL Performance
Normalized NOPM | Higher is better

Figure 4. Relative PostgreSQL performance, in new orders per minute, of 64-vCPU m6i instances vs. 64-vCPU m6a instances. Higher numbers are better.

Conclusion

By selecting m6i instances rather than m6a instances, organizations running PostgreSQL on AWS can see higher performance whether their databases are 4-vCPU or sixteen times that size. By delivering more new orders per minute, m6i instances with 3rd Gen Intel Xeon Scalable processors can better support business growth.

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/.

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