# Handle up to 1.45x More PostgreSQL Transactions on AWS EC2 C5 instances vs. AWS EC2 C4 instances

## Boost Database Performance with newer C5 instances featuring 2nd Gen Intel® Xeon® Scalable processors

Ecommerce and data warehousing applications backed by PostgreSQL databases can benefit from strong underlying hardware to provide customers and internal users alike with a positive experience. Testing shows that at various database sizes, AWS C5 Instances enabled by 2nd Gen Intel® Xeon® Scalable processors can improve database performance over C4 instances.

In HammerDB benchmark tests using an OLTP workload (TPROC-C) to compare PostgreSQL database performance on three sizes of AWS EC2 instances, newer C5 instances featuring 2nd Gen Intel Xeon Scalable processors delivered up to 1.45x more transactions per minute than C4 instances with older processors.

Across instance sizes, database performance scaled linearly, with the newer C5 instances outperforming C4 instances by providing as much as 1.45x the PostgreSQL database transactions. With C5 instances, organizations can support more customers per instance, which could lead to lower monthly cloud operating costs because they require fewer cloud instances to support their customer base.

## Boost Performance for Smaller Databases

As Figure 1 shows, 8-vCPU C5 instances enabled by 2nd Gen Intel Xeon Scalable processors outperformed 8-vCPU C4 instances, processing 1.22x more PostgreSQL database transactions per minute.

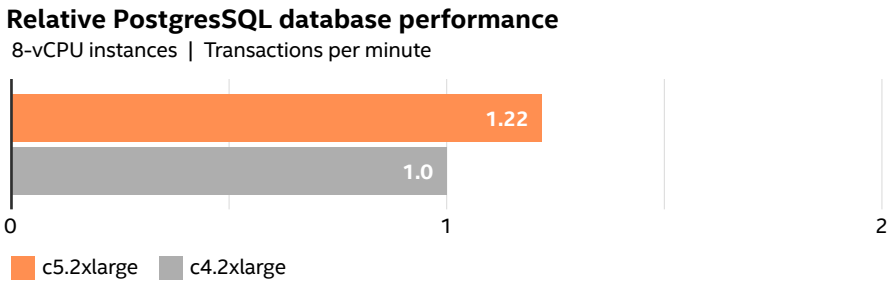


Figure 1. Relative results comparing the PostgreSQL database transactions per minute of 8-vCPU C5 instances vs. 8-vCPU C4 instances.

**PostgresSQL**

**Support up to 1.22x the PostgreSQL transactions per minute with 8-vCPU C5 instances**

*vs. older C4 instances*

**Support up to 1.43x the PostgreSQL transactions per minute with 16-vCPU C5 instances**

*vs. older C4 instances*

**Support up to 1.45x the PostgreSQL transactions per minute with 36-vCPU C5 instances**

*vs. older C4 instances*

## Boost Performance for Medium-Size Databases

As Figure 2 shows, 16-vCPU C5 instances with 2nd Gen Intel® Xeon® Scalable processors provided 1.43x better PostgreSQL database performance than C4 instances.

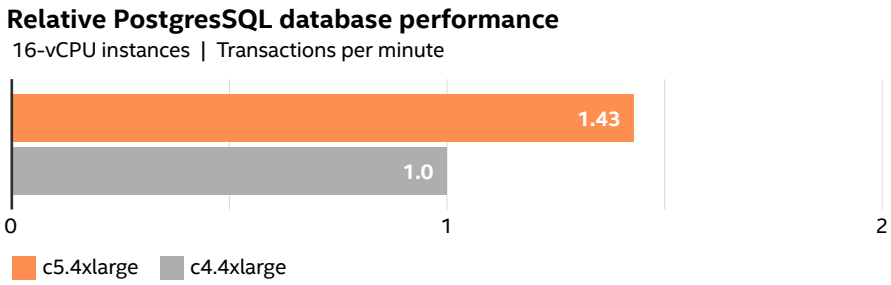


Figure 2. Relative results comparing the PostgreSQL database transactions per minute per dollar of 16-vCPU C5 instances vs. 16-vCPU C4 instances.

## Boost Performance for Larger Databases

As Figure 3 shows, 36-vCPU C5 instances with 2nd Gen Intel Xeon Scalable processors provided 1.45x better PostgreSQL database performance than C4 instances

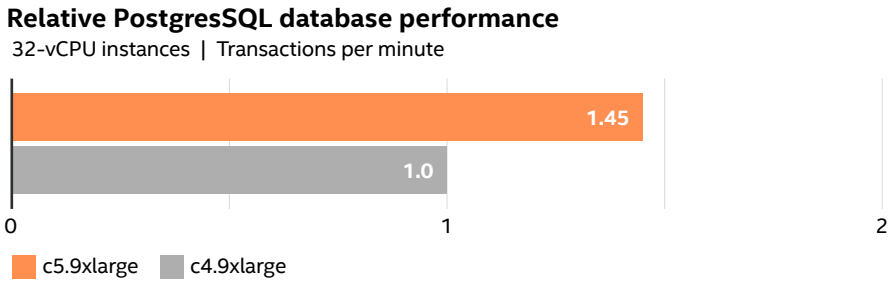


Figure 3. Relative results comparing the PostgreSQL database transactions per minute per dollar of 36-vCPU C5 instances vs. 36-vCPU C4 instances.

Organizations that host PostgreSQL databases in the cloud—regardless of if databases are small, medium-sized, or larger, can deliver better database performance for their users by selecting AWS C5 instances enabled by 2nd Gen Intel Xeon Scalable processors over AWS C4 instances running on older processors.

## Learn More

To begin running your PostgreSQL workloads on AWS C5 Instances with 2nd Gen Intel Xeon Scalable processors, visit http://intel.com/aws.


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