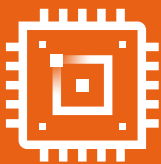![intel logo]

Select AWS EC2 Instances Featuring 3rd Gen Intel® Xeon® Scalable Processors for up to 1.25x the Redis Performance

Redis

Achieve up to 1.25x the Redis Operations/Sec with M6i Instances Featuring 3rd Gen Intel Xeon Scalable Processors

vs. M5 Instances with Older Processors

Achieve up to 1.25x the Redis Operations/Sec with R6i Instances Featuring 3rd Gen Intel Xeon Scalable Processors

vs. R5 Instances with Older Processors

M6i, R6i, and C6i Instances Delivered as Many or More Operations per Second than M5, R5, and C5 Instances with Older Processors

If your business relies on in-memory databases for real-time outputs—for example, machine learning, medical device analytics, or banking transactions—strong database performance is essential. Whether you need to support bidding in real time or keep gaming leaderboards up-to-date, your customers expect fast performance. When they enjoy a smooth, seamless experience, they could be more likely to engage with your services in the future. For organizations that use Redis—an open-source, in-memory data structure store—high-performing AWS Elastic Cloud Compute (EC2) instances can keep operations running smoothly. In tests with general-purpose, memory-optimized, and compute-optimized instances, we found that instances enabled by 3rd Gen Intel Xeon Scalable processors achieved a similar or higher rate of operations per second than instances with older processors. These performance gains make M6i, R6i, or C6i instances a wise choice for an organization seeking better performance for database work.

Up to 1.25x the Performance on General-Purpose Instances

Because different businesses have different workload sizes, we tested general-purpose instances at several vCPU counts. As Figure 1 shows, M6i instances with 3rd Gen Intel Xeon Scalable processors outperformed older M5 instances. They consistently delivered more operations per second, with 32vCPU M6i instances attaining 1.25 times the performance of 32vCPU M5 instances.

M6i vs. M5: Normalized Redis Operations per Second
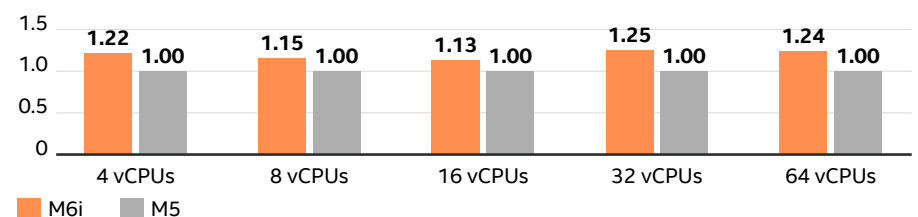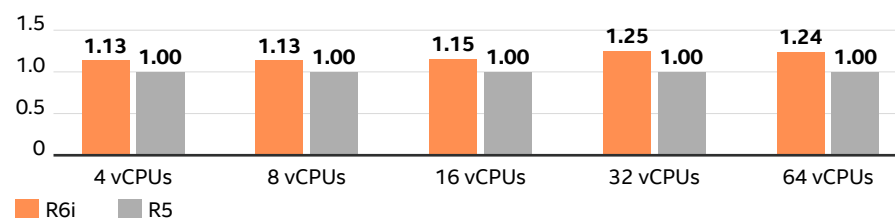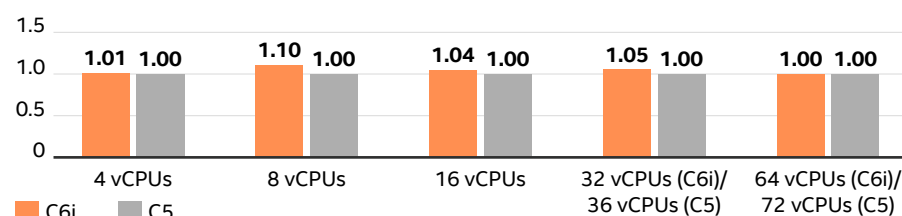Higher is better

Figure 1. Relative performance, in operations per second, that M6i instances handled compared to M5 instances. Higher numbers are better.

Up to 1.25x the Performance on Memory-Optimized Instances

In tests on various sizes of memory-optimized instances, R6i instances featuring 3rd Gen Intel Xeon Scalable processors offered up to 1.25 times the performance of older R5 instances. Figure 2 shows that R6i instances achieved more operations per second at all sizes we tested.

Intel Workload Proof Series: Redis on AWS EC2 M6i, R6i, and C6i Instances

See backup for workloads and configurations. Results may vary.

R6i vs. R5: Normalized Redis Operations per Second
Higher is better

Figure 2. Relative performance, in operations per second, that R6i instances handled compared to R5 instances. Higher numbers are better.

Up to 1.1x the Performance on Compute-Optimized Instances

Compute-optimized C6i instances with 3rd Gen Intel® Xeon® Scalable processors delivered performance better than or comparable to older C5 instances. Note: At the two largest sizes we tested, vCPU counts differ between C6i and C5 instances; we configured them as closely as we could. Even with fewer vCPUs at these larger instance sizes, C6i instances achieved performance on par with C5 instances.

C6i vs. C5: Normalized Redis Operations per Second
Higher is better

Figure 3. Relative performance, in operations per second, that C6i instances handled compared to C5 instances. Higher numbers are better.

Conclusion

In tests across instance types and with various sizes, AWS EC2 instances featuring 3rd Gen Intel Xeon Scalable processors achieved more Redis operations per second than older instances. If your organization needs powerful performance to support in-memory databases and keep real-time operations running smoothly, choose M6i, R6i, or C6i instances enabled by 3rd Gen Intel Xeon Scalable processors.

Learn More

To begin running your Redis workloads on AWS EC2 M6i instances, visit https://aws.amazon.com/ec2/instance-types/m6i/; for R6i instances, visit https://aws.amazon.com/ec2/instance-types/r6i/; for C6i instances, visit https://aws.amazon.com/ec2/instance-types/c6i/.

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