

Achieve up to 3x the database performance with an AMD EPYC 4005 series processor-based solution, says new PT study

An AMD EPYC 4545P processor-powered server sustained higher OLTP performance vs. a comparable system and a legacy system, both based on Intel Xeon processors

SANTA CLARA, CA, UNITED STATES, June 16, 2026 /EINPresswire.com/ -- Database servers handle a variety of critical operations: POS systems for retail, inventory levels for warehouses, recordkeeping for medical facilities, and many more. Principled Technologies (PT) demonstrated that a server powered by an AMD EPYC 4005 series processor delivered higher database performance than both a legacy Intel Xeon E-2400 series processor-based system and a current Intel Xeon 6300 series processor-based system. Achieving up to 3 times the new orders per minute (NOPM) of the legacy system and up to 42 percent more transactions per minute (TPM) than the current competing system, the AMD EPYC 4545P processor-based solution can deliver strong performance and value to small businesses.

What PT found

According to the report, "In our hands-on testing, the new AMD EPYC 4005 series processor-



Principled Technologies®

A Principled Technologies report: Hands-on testing. Real-world results.

Get more from your small business database with AMD EPYC™ 4005 series processors and Windows Server 2025

A single-socket AMD EPYC 4005 series processor-powered server, running the latest version of Windows Server, delivered stronger performance than an Intel Xeon 6300 series processor-based server and a legacy server running an older operating system
A study commissioned by AMD

If your small business operates a database server, you know its performance can affect daily operations. Whether it's for a hardware store tracking thousands of SKUs, a medical office scheduling patients, or a shop tracking orders and available supplies, the database behind your point-of-sale (POS) or line-of-business applications must handle your usage expectations. Slow or crashing applications often indicate when aged systems struggle to keep up, and replacing your old servers should significantly improve application responsiveness and support smoother business operations.

To help make your next server choice easier, we ran a real-world online transaction processing (OLTP) workload on three single-socket servers to compare their performance head-to-head. In our testing, a server powered by an AMD EPYC™ 4005 series processor sustained better database performance than both a legacy Intel® Xeon® E-2400 series processor-based system and a current Intel Xeon 6300 series processor-based system. Our report explores these results and explains what they might mean for your small business.



Handle more everyday application requests
Up to 3.05x the new orders per minute vs. a legacy system*



Help reduce lag in POS, inventory, and other workflows
Up to 42% more transactions per minute vs. a comparable Intel Xeon 6300 series processor-based system*



*based on HammerDB TPROC-C testing on an AMD EPYC 4545P processor-based system versus Intel Xeon 6357P and Intel Xeon E-2488 processor-based systems

Get more from your small business database with AMD EPYC™ 4005 series processors and Windows Server 2025 June 2026

Get more from your small business database with AMD EPYC™ 4005 series processors and Windows Server 2025

based system outperformed both Intel Xeon processor-based systems.”

First, they showed that the AMD EPYC 4005 series processor-based server delivered almost 3 times the TPM and 3 times the NOPM of the legacy Intel Xeon E-2400 series processor-based server. They write, “If the older server you’re running now is like our legacy system, this is a very significant improvement. For a business that processes hundreds or thousands of transactions each day, that kind of performance boost could mean shorter wait times at the register, faster order lookups, and less time spent waiting on end-of-day reports.”

Second, they found that compared to the current Intel Xeon processor-based system, the system with the AMD EPYC processor delivered 42 percent more TPM and 41 percent more NOPM. According to PT, “Though this performance gap is smaller than the one between the new AMD EPYC processor-powered server and the legacy server, any advantage is significant to customer-focused small businesses looking to grow.”

Why this matters for small businesses

The term “database transaction” encompasses actions that retrieve, update, add, or verify information in a database. That could be inventory updates, price lookups, appointment updates, or stock adjustments. The report states, “Processing more transactions per minute can mean your business handles more of these everyday tasks faster, with less waiting and fewer slowdowns across the applications your employees use. Consider these advantages that a higher-performing database server can bring to our example use cases:

- Hardware store: Faster inventory updates could help employees see current stock levels sooner, reduce manual checks, and support better reorder decisions.
- Medical office: Faster scheduling and record updates could help front-desk staff reduce delays, avoid double-booking mistakes, and keep patient intake moving.
- Local restaurant: Faster POS and inventory database responses could help staff reconcile sales and stock data more quickly, identify shrink or waste patterns, and keep service moving during busy periods.

Even outside peak traffic, a more responsive database server can still affect the speed of everyday work and help reduce application lag when employees need to retrieve, update, or process information. Systems won’t seem as slow, potentially improving the employee and customer experience alike for these critical applications.”

Conclusion

In real-world OLTP testing, PT demonstrated that a single-socket server powered by an AMD EPYC 4005 series processor delivered up to 3 times the database transactions per minute of a legacy Intel Xeon processor-based system and up to 42 percent more than a new Intel Xeon 6300 series processor-based system. For small businesses experiencing slowdowns due to aging gear, a hardware refresh might be in order. According to the report, “Upgrading to a new server with a current-generation AMD EPYC processor can help your database system handle the same work faster and give your small business the capacity you need to grow.”

To learn more, [read the report](#).

About Principled Technologies, Inc.

Principled Technologies, Inc. is the leading provider of technology marketing and learning & development services.

Principled Technologies, Inc. is located in Durham, North Carolina, USA. For more information, please visit www.principledtechnologies.com.

Sharon Horton

Principled Technologies, Inc.

press@principledtechnologies.com

Visit us on social media:

[LinkedIn](#)

[Facebook](#)

[YouTube](#)

[X](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/920004417>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2026 Newsmatics Inc. All Right Reserved.