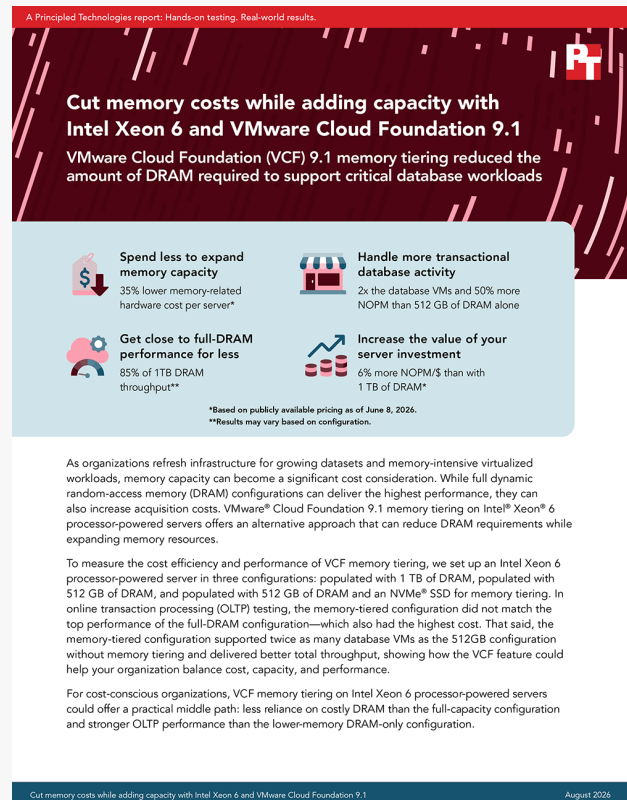


VMware Cloud Foundation 9.1 memory tiering can cut memory-related hardware costs

An Intel Xeon 6 processor-powered server with 512GB DRAM & memory tiering offered 35% lower memory-related hardware costs vs. 1 TB of DRAM.

SAN JOSE, CA, UNITED STATES, August 17, 2026 /EINPresswire.com/ -- As memory costs rise, organizations are figuring out how to balance hardware costs with database performance. Principled Technologies (PT) has released a report examining how VMware Cloud Foundation (VCF) 9.1 memory tiering can affect memory cost, capacity, and online transaction processing (OLTP) performance on an Intel Xeon 6 processor-powered Dell PowerEdge R770 server. The hands-on study compared three configurations on the same server: 1 TB of DDR5 DRAM, 512 GB of DDR5 DRAM, and 512 GB of DDR5 DRAM plus a dedicated NVMe® drive with 512 GB configured for memory tiering.

PT ran a HammerDB TPROC-C workload across database VMs and measured throughput in new orders per minute (NOPM). PT also compared the performance results with estimated hardware pricing for the matching memory and storage configurations. VCF 9.1 memory tiering combined DRAM and a dedicated NVMe device into one logical memory space, keeping frequently accessed memory pages in DRAM and placing less-active pages in the NVMe tier at the hypervisor level.



Report: Cut memory costs while adding capacity with Intel Xeon 6 and VMware Cloud Foundation 9.1

Key findings

- 35% lower estimated memory-related hardware costs: The memory-tiered configuration cost \$68,539.64 for the memory-related components included in the comparison, versus \$106,077.28 for the 1 TB DRAM configuration, based on publicly available pricing as of June 8, 2026.
- 85% of the 1 TB DRAM configuration's throughput: The memory-tiered configuration supported the same 12 database VMs as the 1 TB DRAM configuration and delivered 2,595,550 NOPM compared with 3,054,071 NOPM.
- 2x the database VMs and 50% more NOPM than 512 GB of DRAM alone: Adding the dedicated NVMe tier enabled 12 database VMs to run instead of six and increased total throughput from 1,719,646 to 2,595,550 NOPM.
- 6% more NOPM per dollar than the 1 TB DRAM configuration: PT's performance-per-dollar comparison found 16.62 NOPM per dollar for the memory-tiered configuration and 15.57 for the 1 TB DRAM configuration.

The full-DRAM configuration delivered the highest OLTP performance of the three tested configurations, while the memory-tiered configuration provided a lower-cost option that delivered substantially more throughput than 512 GB of DRAM alone. As the report states, "For cost-conscious organizations, VCF memory tiering on Intel Xeon 6 processor-powered servers could offer a practical middle path: less reliance on costly DRAM than the full-capacity configuration and stronger OLTP performance than the lower-memory DRAM-only configuration."

The results show how infrastructure teams evaluating memory-intensive virtualized database workloads can weigh maximum throughput against memory-related acquisition cost and server resource utilization. Results can vary based on system and resource configuration.

For full results, methodology, and configuration details, read the [PT report on VCF 9.1 memory tiering](#).

About Principled Technologies, Inc.

Principled Technologies, Inc. is the leading provider of fact-based marketing and competitive analysis backed by transparent methodologies.

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