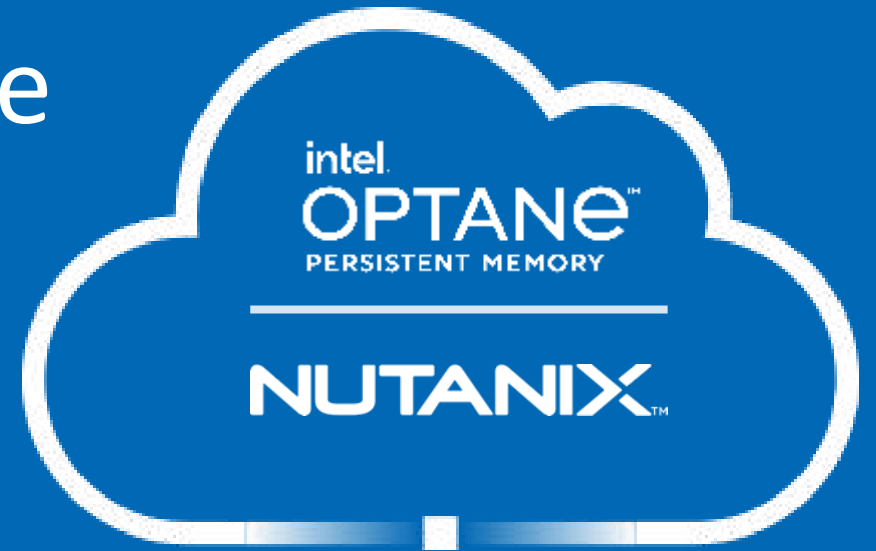
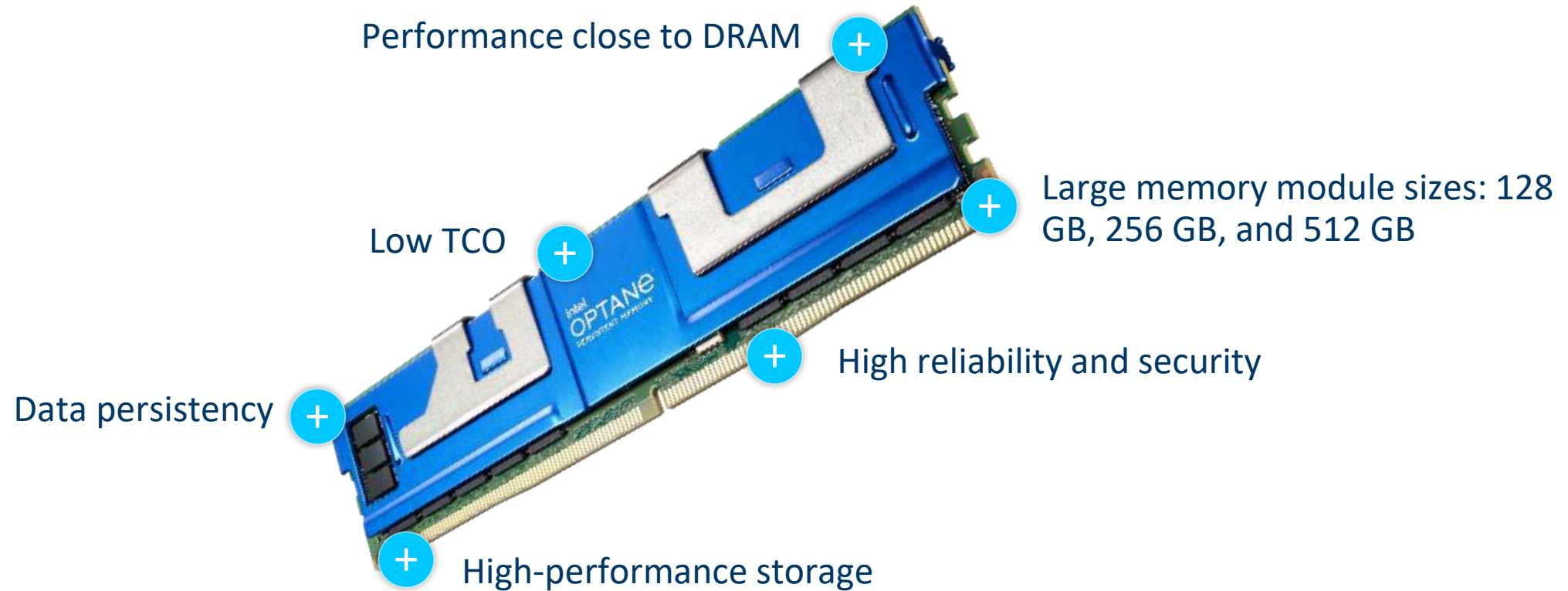


# Memory Tiering with Intel® Optane™ enables Performance at Lower Cost

Intel® Optane™ Persistent Memory for  
Nutanix VDI & Database Solutions



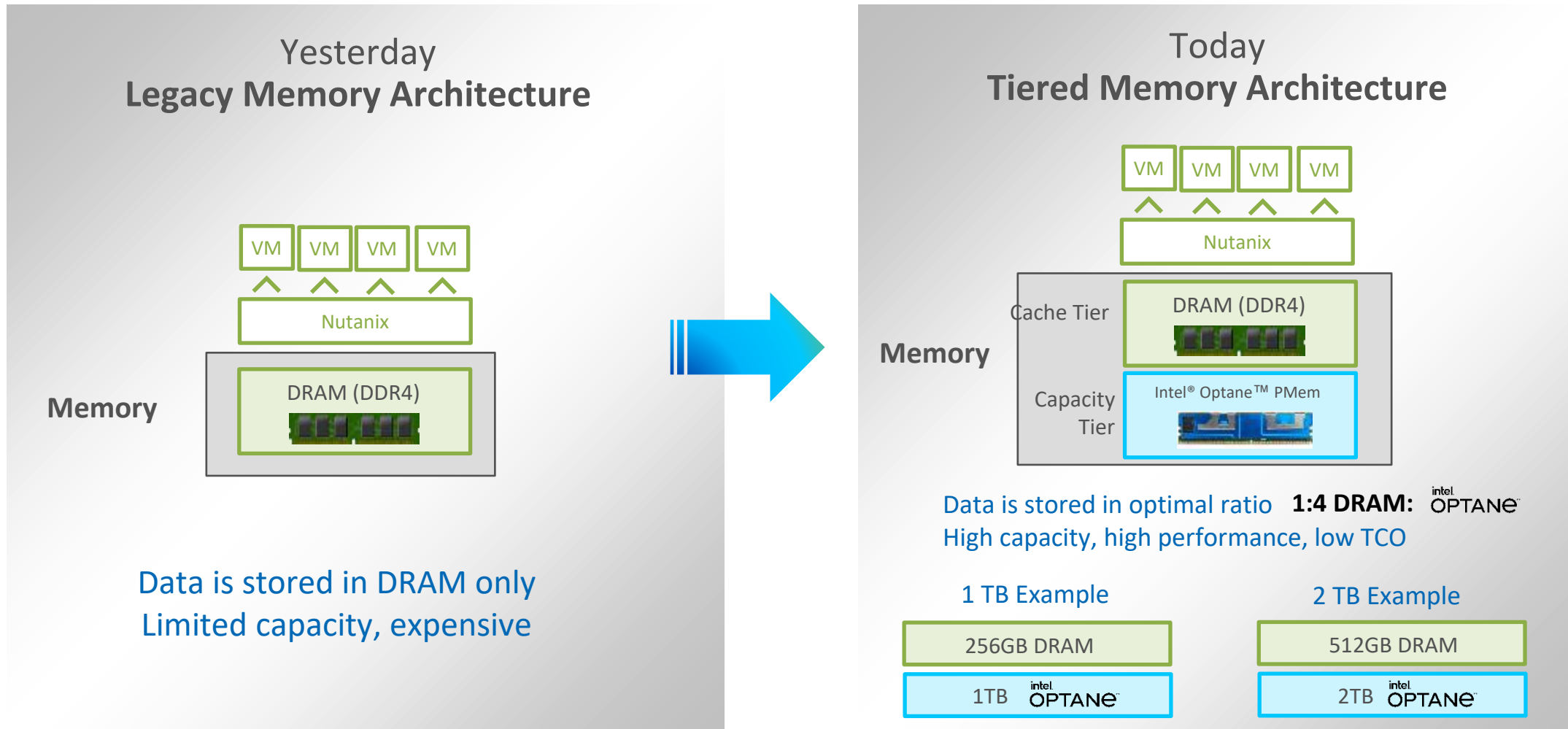
# Introducing Intel® Optane™ PMem



**Enables Up To 8TB Memory Per 2-socket System**

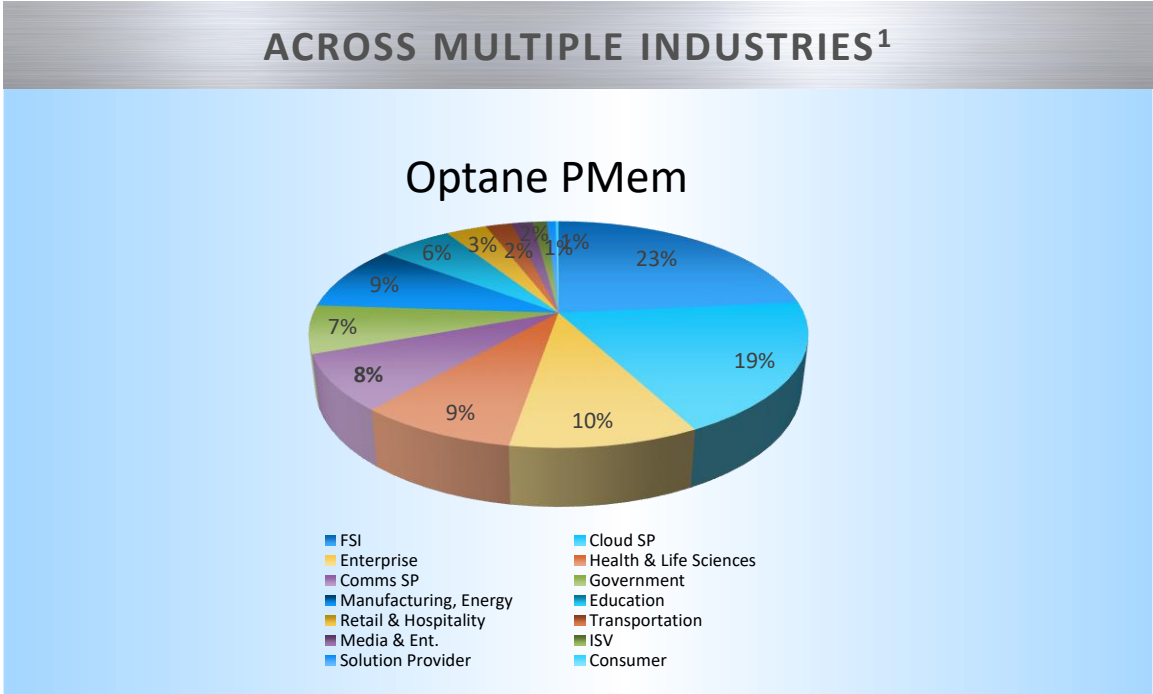
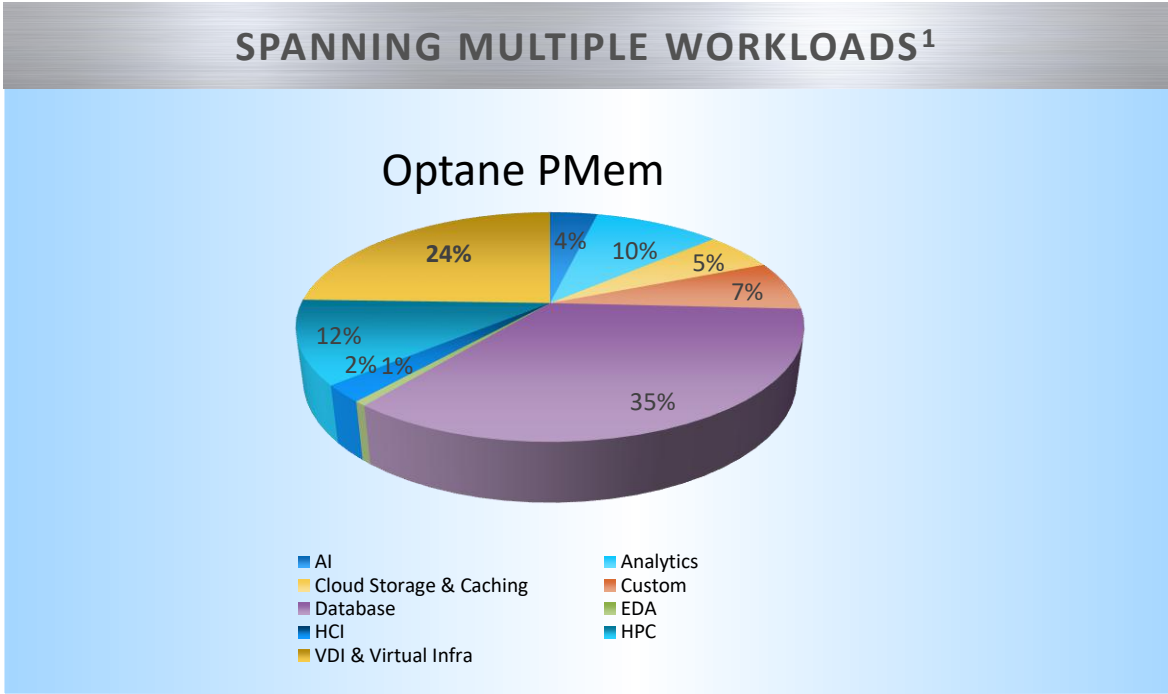
# Combining DRAM & Intel® Optane™ Technology

The benefits of data tiering for storage, now available for memory



# Revolutionizing Data Center Memory

CUSTOMER TRACTION SINCE LAUNCH<sup>1</sup> | Intel® Optane™ PMem | **+200** FORTUNE 500 | **+1000** END CUSTOMER WINS



<sup>1</sup> Based on data from Intel.

# VDI and Database Solutions on Nutanix with Intel® Optane™ PMem 200 Series: Greater Capacity, Scalability, and Cost Savings



## Customer challenge:

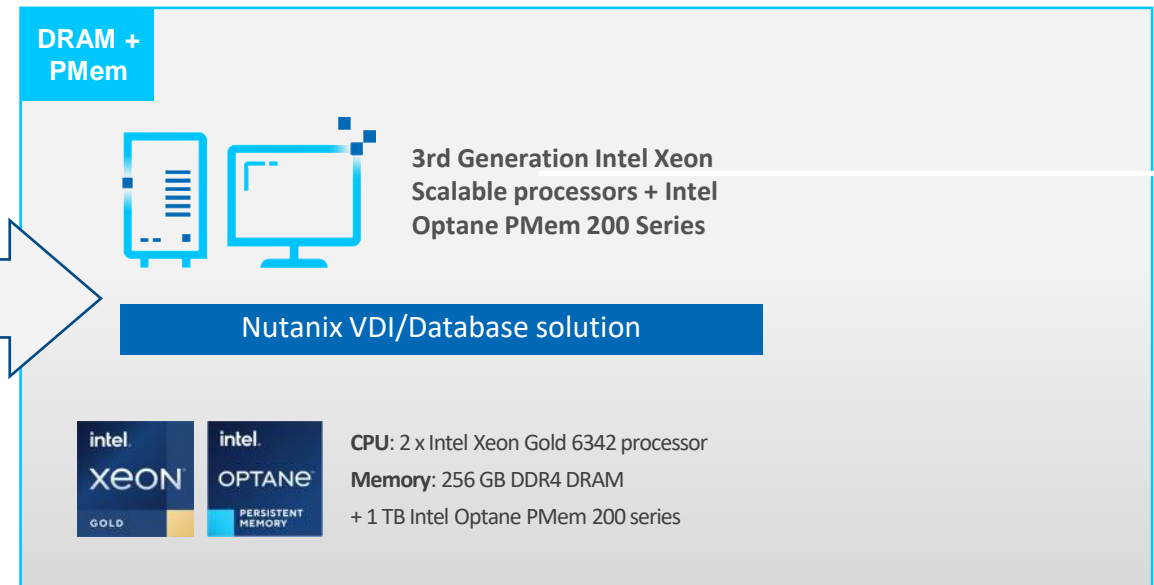
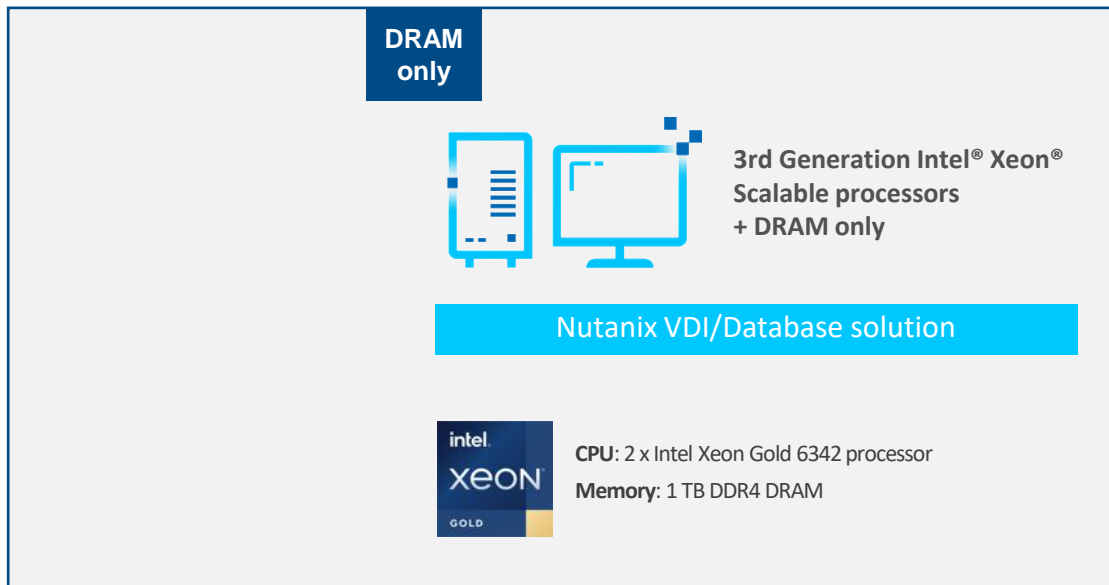


- **Reduce costs:** Organizations using SQL Server for their expanding data needs or the ones supporting virtual desktop infrastructure (VDI) need large memory systems without exceeding budget or expanding their data center footprint.

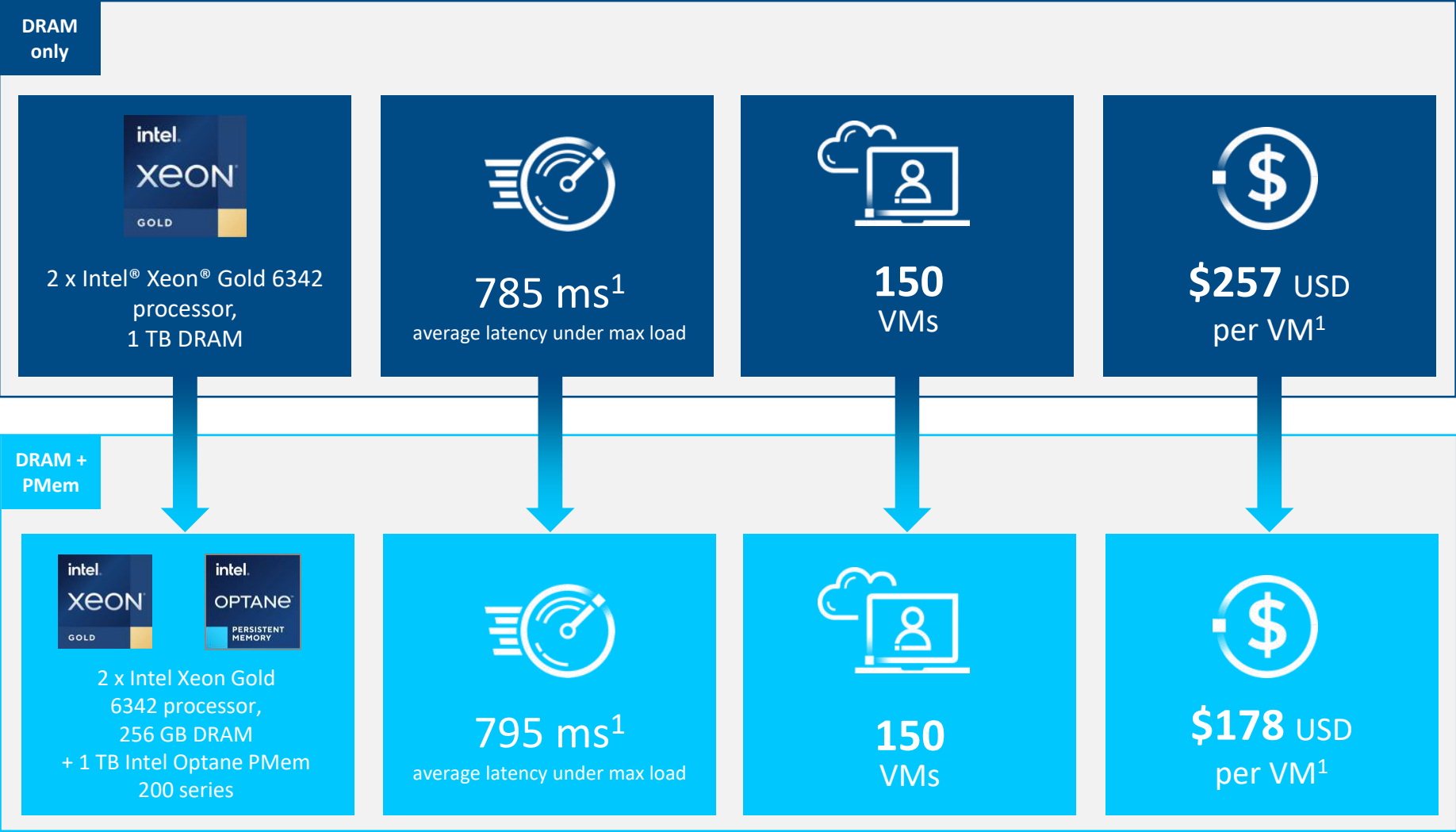
## Solution:



- Reduce limited-capacity traditional DRAM while expanding overall memory capacity by using Intel Optane persistent memory (PMem) with a Nutanix hyperconverged infrastructure (HCI) solution to support the same number of VDI users or database VMs at a lower cost and with a similar end-user experience.



# Intel® Optane™ PMem 200 Series on Nutanix VDI Solution: Reduce Your IT Budget. Do More with Less.



Up to

30%

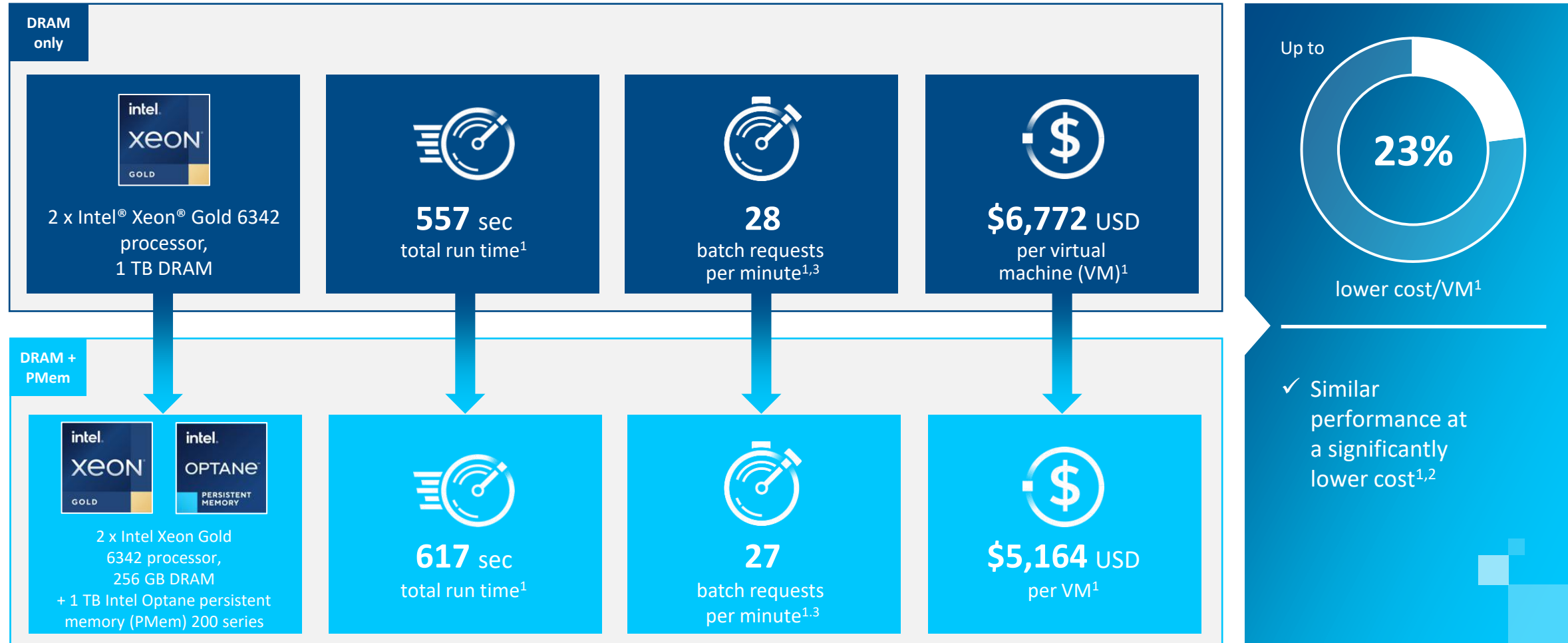
Lower cost/node<sup>1</sup>

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✓ Support same number of users with similar latency at a lower cost<sup>1</sup> with similar end-user experience.

<sup>1</sup> Performance results are based on testing by February 24, 2022 and may not reflect all publicly available updates. See [backup](#) for workloads and configurations. Results may vary.

# Intel® Optane™ PMem 200 Series with Microsoft SQL Server on Nutanix HCI Systems



<sup>1</sup> Performance results are based on testing by Intel as of March 8 and 9, 2022, and may not reflect all publicly available updates. See [backup](#) for workloads and configurations. Results may vary.

<sup>2</sup> Similar performance equals within 10 percent. Test results reflect high-stress online analytical processing (OLAP) workload using HammerDB.

<sup>3</sup> Batch requests per minute provides a representation of throughput and is affected by several constraints, including input/output (I/O), number of users, cache size, complexity of requests, and other factors.

# Call to Action

- Review "Nutanix Support for Intel Optane Persistent Memory" Knowledge Based "KB" article at:
  - <https://www.nutanix.com/intel/nutanix-support-for-intel-optane-persistent-memory-in-memory-mode>
- Download the Value Prop Guides for Optane Persistent Memory on Nutanix VDI & Database Solutions from the Intel Resources
- Engage with customers using the sales resources and value prop guide
- Collaborate with your Intel Account Executive counterparts or to get connected contact:
  - Ned Fiori (Intel Global Account Manager for Nutanix [ned.t.fiori@intel.com](mailto:ned.t.fiori@intel.com))



# Nutanix VDI Solution with Intel® Optane™ PMem 200 Series: Boosting VDI Density, Reducing Costs



## Configuration details:

**1 TB DRAM-only configuration (150 VMs, 785 ms average latency under max load, \$257 USD per VM):** 2 sockets, 2 x Intel® Xeon® Gold 6342 processor (\$2,706), 512 GB DRAM (8 x 64 GB) per socket (1,024 GB total, \$30,983), storage estimated at \$2,543, RBOM estimated at \$2,300 for a system total of \$38,532. **Workload:** Login VSI with Citrix Virtual Apps and Desktop service (CVAD) 7 running on Nutanix AOS 6.0.2 on VMware ESXi 7.0. U3. Tested February 24, 2022.

**1 TB Intel Optane persistent memory (PMem) 200 Series + 256 GB DRAM configuration (150 VMs, 795 ms average latency under max load, \$178 USD per VM):** 2 sockets, 2 x Intel Xeon Gold 6342 processor (\$2,706), 512 GB Intel Optane PMem per socket (4 x 128 GB) and 128 GB DRAM per socket (8 x 16 GB) (1 TB Intel Optane PMem total and 256 GB DRAM total, \$19,057), storage estimated at \$2,543, RBOM estimated at \$2,300 for a system total of \$26,606. **Workload:** Login VSI with Citrix Virtual Apps and Desktop service (CVAD) 7 running on Nutanix AOS 6.0.2 on VMware ESXi 7.0. U3. Tested February 24, 2022.

**Intel Optane PMem** pricing and DRAM pricing referenced in total cost of ownership (TCO) calculations is provided for guidance and planning purposes only and does not constitute a final offer. Pricing guidance is subject to change and may revise up or down based on market dynamics. Please contact your original equipment manufacturer (OEM)/distributor for actual pricing. DRAM pricing as of February 2022.

# Nutanix Database Solution with Intel® Optane™ PMem 200 Series: Great Performance at Reduced Costs



## Configuration details:

**1 TB DRAM-only configuration (15 VMs, \$6312 USD per VM):** 2 sockets, 2 x Intel® Xeon® Gold 6342 processor (\$2,706), 512 GB DRAM (16 x 32 GB) per socket (1,024 GB total, \$21,152), storage estimated at \$5,000, RBOM estimated at \$2,300 for a system total of \$33,864. **Workload:** HammerDB (SQL Server, Columnstore, 300SF) running on Nutanix AOS 5.20.2.1 on AHV (Acropolis Hypervisor) 20201105.2244. Tested March 8, 2022.

**1 TB Intel Optane persistent memory (PMem) 200 Series + 256 GB DRAM configuration (15 VMs, \$178 USD per VM):** 2 sockets, 2 x Intel Xeon Gold 6342 processor (\$2,706), 512 GB Intel Optane PMem per socket (4 x 128 GB) and 128 GB DRAM per socket (8 x 16 GB) (1 TB Intel Optane PMem total and 256 GB DRAM total, \$13,112), storage estimated at \$5,000, RBOM estimated at \$2,300 for a system total of \$25,824. **Workload:** HammerDB (SQL Server, Columnstore, 300SF) running on Nutanix AOS 5.20.2.1 on AHV (Acropolis Hypervisor) 20201105.2244. Tested March 9, 2022.

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# Notices and Disclaimers

Performance varies by use, configuration and other factors. Learn more at [www.Intel.com/PerformanceIndex](https://www.intel.com/PerformanceIndex).

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure.

Your costs and results may vary.

Intel technologies may require enabled hardware, software or service activation.

Results have been estimated or simulated using internal Intel analysis or architecture simulation or modeling, and provided to you for informational purposes. Any differences in your system hardware, software or configuration may affect your actual performance.

Intel® Optane™ persistent memory pricing and DRAM pricing referenced in TCO calculations is provided for guidance and planning purposes only and does not constitute a final offer. Pricing guidance is subject to change and may revise up or down based on market dynamics. Please contact your OEM/distributor for actual pricing.

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