



DEEPER INSIGHTS, FASTER DESIGN CYCLES WITH INTEL® XEON® SCALABLE PROCESSORS

TAKE YOUR ENGINEERING SIMULATIONS TO THE NEXT LEVEL



so you can:

- Build Larger Models
- Study More Complex Physics
- Accelerate Your Design Cycles

INTES PERMAS*

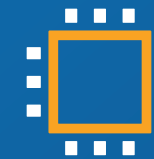
A Proven Solution for Mission-Critical FE Analysis¹



- Among the most advanced finite element software systems in the world
- Ideal for statics, dynamics, heat transfer, fluid-structure acoustics, and optimization
- Widely used in automotive, ship design, aerospace, and more

INTEL® XEON® SCALABLE PROCESSORS

A Leap Forward in Compute Power



- More cores for faster processing
- Higher memory bandwidth for higher core utilization
- Intel® Advanced Vector Extensions 512 (doubles maximum floating-point operations per clock cycle²)

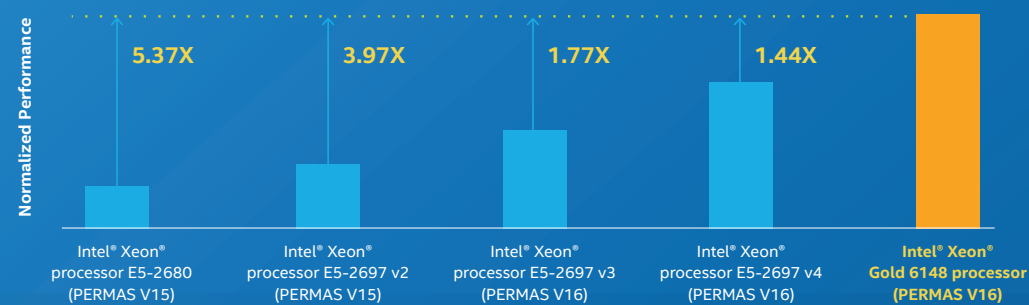
² versus prior-generation Intel® Xeon® processors with Intel® AVX2

BETTER TOGETHER: GET HIGHER PERFORMANCE FOR YOUR PERMAS SIMULATIONS

with Intel® Xeon® Scalable Processors and INTES PERMAS V16

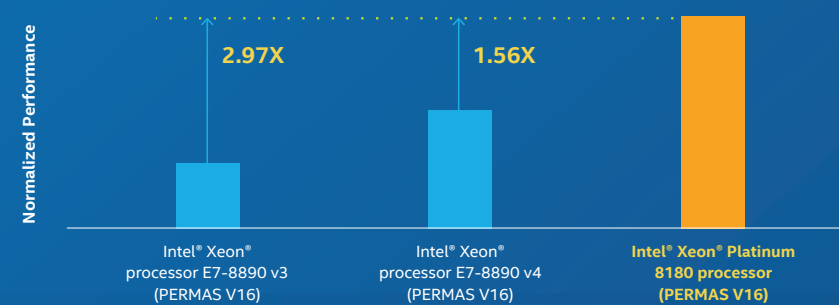
UP TO 44% HIGHER 2-SOCKET PERFORMANCE² THAN A PREVIOUS-GENERATION SERVER

with the Intel® Xeon® Gold 6148 Processor and the Intel® Solid State Drive Data Center P3600 (Intel® SSD DC P3600)

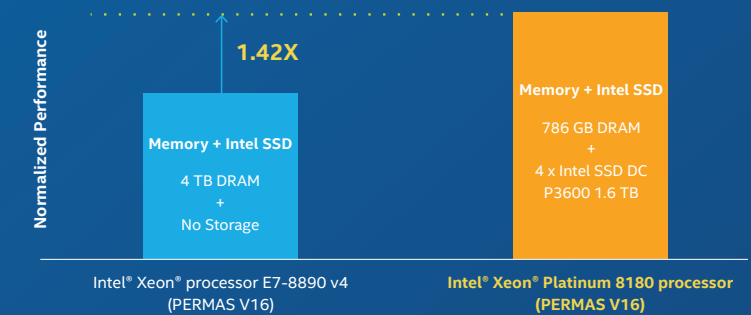


UP TO 56% HIGHER 4-SOCKET PERFORMANCE³ THAN A PREVIOUS-GENERATION SERVER³

with the Intel® Xeon® Platinum 8180 Processor and the Intel® SSD DC P3600



Intel Xeon Scalable processors and Intel SSDs for NVMe deliver powerful performance gains even when compared to a previous-generation in-memory solution with a large, costly DRAM footprint.⁴



LEARN MORE

INTES PERMAS. www.intes.de | Intel® Xeon® Scalable Processors. www.intel.com/XeonScalable

Intel® SSD DC P3600. <https://www.intel.com/content/www/us/en/products/memory-storage/solid-state-drives/data-center-ssds/dc-p3600-series.html>



¹ https://www.intes.de/kategorie_permas/einfuehrung

² Testing conducted on INTES* PERMAS*, May 2017. Intel® Xeon® processor E5-2680 based server configuration: 2-socket Intel® Xeon® processor E5-2680 (2.7 GHz, 8 cores), 160 GB memory (8x 16 GB and 8x 4 GB @1333 MT/s, DDR3), 4x SSD OCZ Vertex 2, CentOS® Linux® 7.1, Intel® Composer 2015.2.164, INTES PERMAS V15.10.12. Intel® Xeon® processor E5-2697 v2 based server configuration: 2-socket Intel® Xeon® processor E5-2697 v2 (2.7 GHz, 12 cores), 128 GB memory (8x 16 GB @1600 MT/s, DDR3), 4x SSD Samsung 840pro, CentOS® Linux® 6.6, Intel® Composer 2011.sp1.13.367, INTES PERMAS V15.10.12. Intel® Xeon® processor E5-2697 v3 based server configuration: 2-socket Intel® Xeon® processor E5-2697 v3 (2.6GHz, 14 cores), 256 GB memory (8x 32GB @2400 MT/s, DDR4 LRDIMM), 4x Intel® SSD DC P3600 2 TB, CentOS® Linux® 6.6, Intel® Composer 2015.2.164, INTES PERMAS V15.10.10. Intel® Xeon® processor E5-2697 v4 based server configuration: 2-socket Intel® Xeon® processor E5-2697 v4 (2.3GHz, 18 cores), 256 GB memory (8x 32GB @2400 MT/s, DDR4 LRDIMM), 4x Intel® SSD DC P3600 2 TB, CentOS® Linux® release 7.2, Intel® Composer 2015.5.223, INTES PERMAS V16.00.015. New configuration: Intel® Xeon® Gold processor 6148 (2.4 GHz, 20 cores), 384 GB memory (12x 32GB @2400 MT/s, DDR4 LRDIMM), 3x Intel® SSD DC P3600 1.6 TB, CentOS® Linux® release 7.3, Intel® Composer 2015.7.235, INTES PERMAS V16.00.

³ Testing conducted on INTES* PERMAS*, May 2017. Intel® Xeon® processor E7-8890 v3 based server: 4-socket Intel® Xeon® processor E7-8890 v3 (2.5 GHz, 18 cores), 256 GB memory (16x 16 GB @ 1333 MT/s, DDR3), 4x Samsung 840pro 512GB and 6x Seagate ST3300657SS, CentOS® Linux® 7.1, Intel® Composer 2015.2.164, INTES PERMAS V15.10.12. Intel® Xeon® processor E7-8890 v4 based server: 4-socket Intel® Xeon® processor E7-8890 v4 (2.2 GHz, 24 cores), 256 GB memory (16x 16 GB @ 1333 MT/s, DDR3), 4x Intel® SSD DC P3600 1.6 TB, CentOS® Linux® 7.2, Intel® Composer 2015.5.223, INTES PERMAS V15.99.015. New Configuration: 4-socket Intel® Xeon® processor Platinum 8180 (2.5 GHz, 28 cores), 768 GB memory (24x 32GB @ 2400 MT/s, DDR4 LRDIMM), 4x Intel® SSD DC P3600 1.6 TB, CentOS Linux® release 7.3, Intel® Parallel Studio 2017.2.174, INTES PERMAS V16.00.302

⁴ In-memory configuration: 4-socket Intel® Xeon® processor E7-8890 v4 (2.2 GHz, 24 cores), 4096 GB memory (32x 128 GB @ 1867 MT/s, DDR4), CentOS® Linux® 7.2, Intel® Composer 2015.7.235, INTES PERMAS V16.00.223. New Configuration: 4-socket Intel® Xeon® processor Platinum 8180 (2.5 GHz, 28 cores), 768 GB memory (24x 32GB @ 2400 MT/s, DDR4 LRDIMM), 4x Intel® SSD DC P3600 1.6 TB, CentOS Linux® release 7.3, Intel® Parallel Studio 2017.2.174, INTES PERMAS V16.00.302

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