

# Accelerated HPC Simulation Performance



Engineers need access to powerful compute resources to simulate and analyze large, complex models, and do so faster and with greater frequency. High-Performance Computing (HPC) infrastructure based on new 3<sup>rd</sup> generation AMD EPYC™ processors with 3D V-Cache™ technology can increase productivity and efficiency.

## Performance Per Core Leadership

Average per-core performance uplift vs. competitive processor with the same number of cores.<sup>1</sup>

**23%** **47%** **88%**

Ansys Fluent® Fluid Dynamics

Ansys LS-DYNA® FEA Explicit

Ansys CFX® Fluid Dynamics

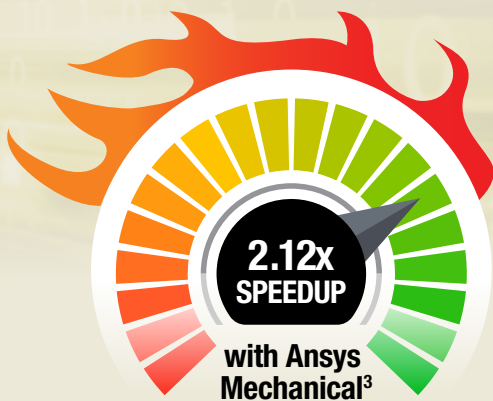
**Scaling Efficiency in the Cloud**

**Up to 199%**  
for Ansys Fluent® on Azure HBv3<sup>2</sup>

“AMD has worked with Ansys to make sure our joint customers can leverage the 3rd Gen AMD EPYC processors for structural mechanics simulation. By integrating AMD Optimizing CPU Libraries (AOCL) in Ansys Mechanical, customers can run complex simulations considerably faster, leading to higher quality and more efficient designs for planes, cars, electrical devices and a range of other products.”

— WIM SLAGTER, DIRECTOR OF STRATEGIC PARTNERSHIPS AT ANSYS

## Optimized Performance with AOCL



Learn more: [www.ansys.com/amd](http://www.ansys.com/amd)

## Supporting Sustainability

Compared to competitive environments, it is estimated that running Ansys CFX on an AMD EPYC platform can reduce energy consumption and carbon emissions:<sup>4</sup>



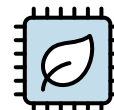
**50%**  
Fewer Servers



**~81 Acres**  
Of U.S. Forest Annually  
(equivalent carbon sequestration)



**49%**  
Less Power



**51%**  
Lower 3YR TCO

<sup>1</sup>Source: See MLNX 010A\_014 and 019 at [www.amd.com/en/claims/epyc3x](http://www.amd.com/en/claims/epyc3x) <sup>2</sup>Source: [www.amd.com/system/files/documents/amd-epyc-7000-3d-v-cache-pb-azure-hbv3-ansys-fluent.pdf](http://www.amd.com/system/files/documents/amd-epyc-7000-3d-v-cache-pb-azure-hbv3-ansys-fluent.pdf)  
<sup>3</sup>Source: [www.amd.com/system/files/documents/amd-epyc-7000-ph-hpc-ansys-mechanical-aocl-optimized-performance.pdf](http://www.amd.com/system/files/documents/amd-epyc-7000-ph-hpc-ansys-mechanical-aocl-optimized-performance.pdf)  
<sup>4</sup>Results estimated based on 2P EPYC 7573X servers versus 2P Intel Xeon E362 servers running 4800 cfx-50 jobs per day. See AMD EPYC claim MLNXTCO-001 at <https://www.amd.com/en/claims/epyc3x#faq-MLNXTCO-001>.