

# NVIDIA QUADRO GP100 BRING OPTIMAL DESIGNS TO MARKET FASTER

## THE ADVANTAGE OF GPUS FOR CAE

Computer aided engineering (CAE) workloads are computationally intensive, requiring massive amounts of double precision compute performance to complete the simulation task. While CPUs use up to 24 cores per CPU for a task, GPUs can provide thousands of cores, offering a superior compute solution for CAE. Multiple GPUs can then be used for the extreme levels of performance required by the largest, most complex simulations.

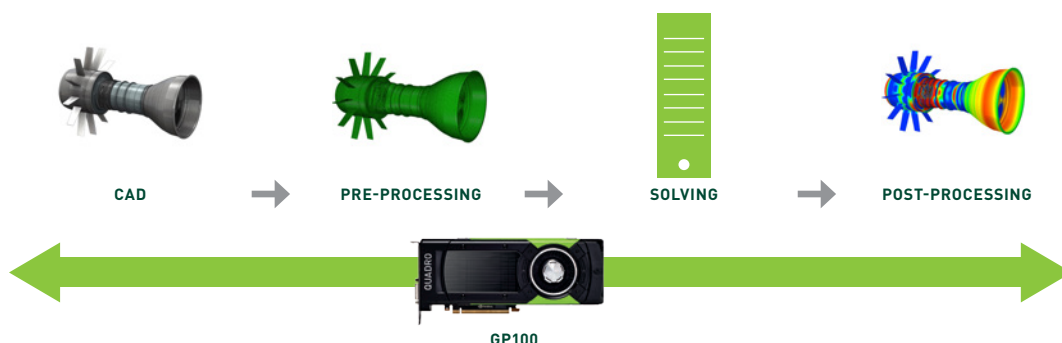
“ We have seen significant acceleration of our Abaqus FEA software simulations which help unify traditional design and simulation workflows.”

Sumanth Kumar, Vice President,  
Growth, SIMULIA, Dassault Systèmes



Not only can GPUs provide the compute power necessary for compute intensive CAE workflows, they also deliver the visualization capability necessary to create complex designs, pre & post processing data for CAE analysis, as well as displaying the results.

## Powering End to End Design/CAE Workflows



## NVIDIA QUADRO GP100

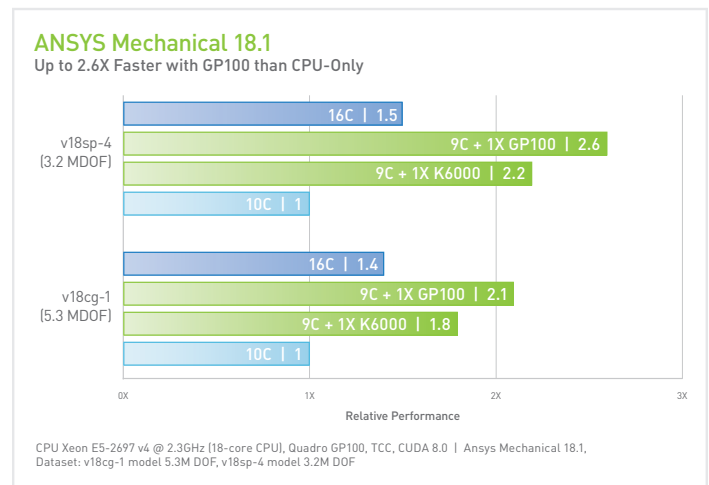
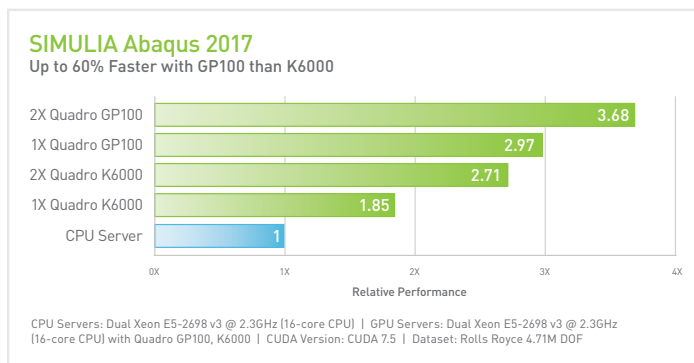
Powered by NVIDIA® Pascal™ GPU technology, the GP100 has 5.2 TFLOPS of double precision floating point performance and 717 GB/s of ultra-fast memory bandwidth, giving you the graphics and computer power you need for the most demanding CAE workflows.



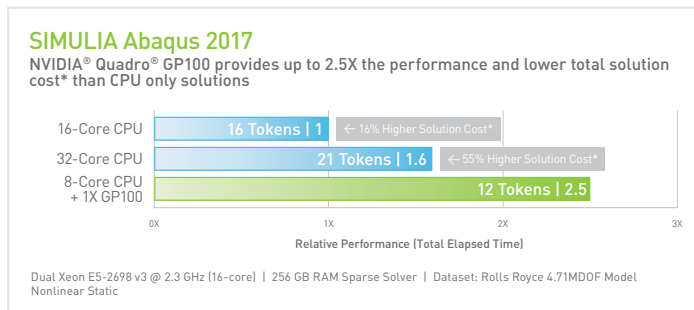
Core	<b>3,584 NVIDIA® CUDA Cores</b>
FP64 Performance	<b>5.2 TFLOPS</b>
FP32 Performance	<b>10.3 TFLOPS</b>
Memory	<b>16 GB HBM2</b>
Memory Bandwidth	<b>Up to 717 GB/s</b>
NVLink	<b>Provides high-speed connection between 2 GP100s</b>

	Intel CPU (E5-2698 V3)	K6000	GP100
<b>Memory Bandwidth</b>	68 GB/s	288 GB/s	717 GB/s
Normalized:	Intel CPU: 1x	4.2x	10.5x
<b>Double Precision Floating Point Performance</b>	300 GFLOPs	1.4 TFLOPs	5.2 TFLOPs
Normalized	Intel CPU: 1x	4.7x	17.3x

## FASTER LOCAL SIMULATION



## COST-EFFECTIVE SIMULATION



\*based on total hardware and software cost.

“ Preliminary studies with the new Quadro GP100 show that our customers can cut the time for typical ANSYS Mechanical models in half, enabling them to innovate products faster across the entire life cycle.”

Wim Slagter, Director of HPC & Cloud Marketing, ANSYS

## GPU ACCELERATED APPLICATIONS

Major CAE software solutions have been optimized with NVIDIA® CUDA® technology to take advantage of the power of the NVIDIA® Quadro® GP100.

For a complete list of GPU accelerated applications for CAE go to [www.nvidia.com/gpu-applications](http://www.nvidia.com/gpu-applications)