

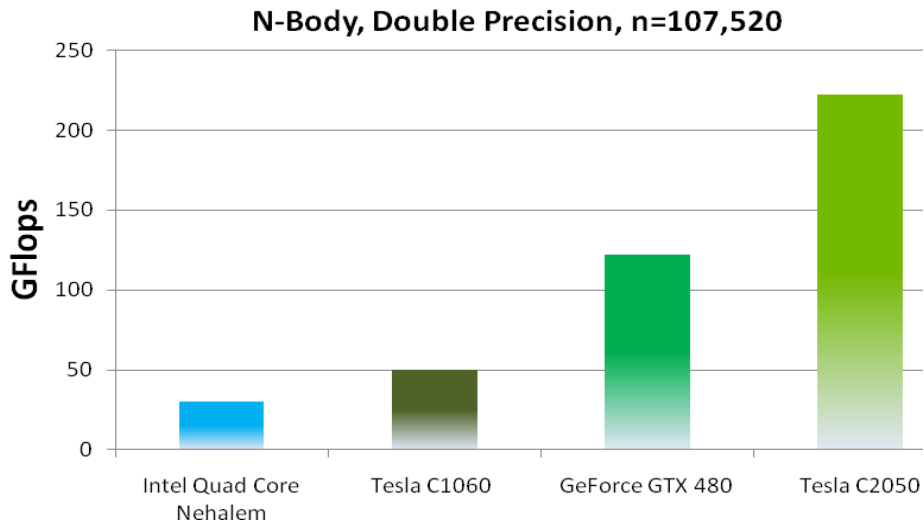
# Why Choose Tesla Over GeForce?

NVIDIA® CUDA parallel computing architecture is enabled on GeForce, Quadro, and Tesla products. Whereas GeForce and Quadro are designed for consumer graphics and professional visualization respectively, the NVIDIA® Tesla™ product family is designed ground-up for parallel computing and offers exclusive computing features.

## THE TESLA ADVANTAGE #1: PERFORMANCE

The NVIDIA® Tesla products are designed with exclusive features to maximize performance for computing professionals.

	Advantages	Tesla	GeForce
HARDWARE	Faster Double Precision Performance	515 GigaFlops	Much lower at 1/8th single precision
	Faster PCI-E Communication	Two DMA engines for bi-directional communication	Only one DMA engine available
	Larger Memory Size	3GB & 6GB available for HPC apps	Largest memory is 1.5GB
SOFTWARE	Optimized for InfiniBand	NVIDIA GPUDirect for accelerated communication	Extra memory copies and context switching
	Performance Drivers	TCC driver on Windows reduces CUDA kernel overhead	Kernel launch overhead reduces GPU performance



Performance of N-body on x86 CPUs and different GPUs

## THE TESLA ADVANTAGE #2: RELIABILITY

Computational professionals depend on mission critical applications to run reliably without data error. All Tesla products undergo zero error tolerance testing in the most strenuous conditions for hundreds of times longer than any other NVIDIA products. Tesla exclusive features include:

	Advantages	Tesla	GeForce
HARDWARE	ECC Protection	All internal and external memories protected	No memories protected
	Zero Error Stress Tested	Stress tested for several days with zero tolerance for error	Tested only for graphics apps
	Manufactured by NVIDIA	Guaranteed by NVIDIA to be of highest quality	Manufactured by 3 <sup>rd</sup> party board makers
SOFTWARE	Enterprise Level Support	Three year warranty and prioritized support for bugs and feature requests	Consumer level support
	ISV Certification	HPC software vendors certify only on Tesla	Functionality/performance risk with software

## THE TESLA ADVANTAGE #3: HPC SOLUTIONS

HPC customers have unique requirements. Only Tesla business unit provides products and solutions to meet these special needs.

	Advantages	Tesla	GeForce
HARDWARE	Integrated Systems	Innovative servers and workstations	System design and support not on consumer products
	18-24 Month Availability	Longer life cycle for investment protection	Supply depends on consumer demand
SOFTWARE	Cluster management and GPU monitoring	Access GPUs in clusters for temperature, power, and usage	No support for datacenter features
	HPC Expertise	Total solution expertise provided by CUDA/OpenCL engineers and technical staff	No HPC expertise or support

Most benefits listed above are also available on Quadro product family