



NVIDIA TESLA PERSONAL SUPERCOMPUTER

TESLA
DATASHEET

Get your own supercomputer. Experience cluster level computing performance—up to 250 times faster than standard PCs and workstations—right at your desk.

The NVIDIA® Tesla™ Personal Supercomputer is based on the revolutionary NVIDIA CUDA™ parallel computing architecture and powered by up to 960 parallel processing cores.

YOUR OWN SUPERCOMPUTER

Get nearly 4 teraflops of compute capability and the ability to perform computations 250 times faster than a multi-CPU core PC or workstation.

NVIDIA CUDA UNLOCKS THE POWER OF GPU PARALLEL COMPUTING

The CUDA™ parallel computing architecture enables developers to utilize C programming with NVIDIA GPUs to run the most complex computationally-intensive applications. CUDA is easy to learn and has become widely adopted by thousands of application developers worldwide to accelerate the most performance demanding applications.

ACCESSIBLE TO EVERYONE

Available from OEMs and resellers worldwide for under \$10,000, the Tesla Personal Supercomputer operates quietly and plugs into a standard power strip so you can take advantage of cluster level performance anytime you want, right from your desk.

TESLA C1060 COMPUTING PROCESSORS ARE THE CORE OF THE TESLA PERSONAL SUPERCOMPUTER



FEATURES AND BENEFITS

YOUR OWN SUPERCOMPUTER	Dedicated computing resource for every computational researcher and technical professional.
CLUSTER PERFORMANCE ON YOUR DESKTOP	The performance of a cluster in a desktop system. Four Tesla computing processors deliver nearly 4 teraflops of performance.
DESIGNED FOR OFFICE USE	Plugs into a standard office power socket and quiet enough for use at your desk.
MASSIVELY PARALLEL MANY CORE GPU ARCHITECTURE	240 parallel processor cores per GPU that can execute thousands of concurrent threads.
SOLVE LARGE-SCALE PROBLEMS USING MULTIPLE GPUS	Scale your application to multiple GPUs and harness the performance of thousands of processor cores to solve large-scale problems.
WIDELY ACCEPTED, EASY TO LEARN CUDA C PROGRAMMING ENVIRONMENT	Easily express application parallelism to take advantage of the GPU's many-core architecture using the NVIDIA CUDA C programming environment.
4 GB HIGH-SPEED MEMORY PER GPU	Dedicated compute memory enables larger datasets to be stored locally for each processor minimizing data movement around the system.
IEEE 754 FLOATING POINT PRECISION (SINGLE-PRECISION AND DOUBLE-PRECISION)	Provides results that are consistent across platforms and meet industry standards.
64-BIT ALUS FOR DOUBLE-PRECISION MATH	Meets the precision requirements of your most demanding applications with 64-bit ALUs.

TECHNICAL SPECIFICATIONS

SUPPORTED PLATFORMS

- > Microsoft Windows XP (64-bit and 32-bit)
- > Linux 64-bit and 32-bit (64-bit recommended)
- > Red Hat Enterprise Linux 4 and 5
- > SUSE 10.1, 10.2 and 10.3

TESLA ARCHITECTURE

- > Massively-parallel many-core architecture
- > 240 scalar processor cores per GPU
- > Integer, single-precision and double-precision floating point operations
- > Hardware Thread Execution Manager enables thousands of concurrent threads per GPU
- > Parallel shared memory enables processor cores to collaborate on shared information at local cache performance
- > Ultra-fast GPU memory access with 102 GB/s peak bandwidth per GPU
- > IEEE 754 single-precision and double-precision floating point

- > Each Tesla C1060 GPU delivers 933 GFlops Single Precision and 78 GFlops Double Precision performance

SOFTWARE DEVELOPMENT TOOLS

- > C language compiler, debugger, profiler, and emulation mode for debugging
- > Standard numerical libraries for FFT (Fast Fourier Transform), BLAS (Basic Linear Algebra Subroutines), and CuDPP (CUDA Data Parallel Primitives)

PRODUCT DETAILS

- > 3 or 4 Tesla C1060 Computing Processors with 4 GB of dedicated memory per GPU
- > 2.33 GHz+ Quad-core AMD Phenom or Opteron -OR- Quad-core Intel Core 2 or Xenon.
Minimum system memory: 12 GB for 3 Tesla C1060s and 16 GB for 4 Tesla C1060s [at least 4 GB per Tesla C1060]
- > Acoustics < 45dbA
- > 1200-1350 watt power supply

To learn more about NVIDIA Tesla Personal Supercomputer, please visit www.nvidia.com/personal_supercomputing