

NVIDIA Wins \$25M Research Grant from US Government

Posted by [Christophor Rick \(TheSuperGuido\)](#) on Aug 15, 2010 07:03

Earlier this week it was announced that a team led by NVIDIA was awarded a research grant of \$25 million by the Defense Advanced Research Projects Agency (DARPA), the U.S. Defense Department's research and development arm, to address what the agency calls a "crisis in computing."

"If all goes according to plan - and these are ambitious plans, to be sure - the U.S. will one day soon be able to use one big, honking computer. Make that an "exascale supercomputer," in the terms of the trade. The DARPA-ed program is designed [find a way to overcome the limits of Moore's Law](#), postulated by Intel's co-founder Gordon Moore, which predicted that the number of transistors placed on an integrated circuit essentially doubles every couple of years."

The four-year research contract, awarded under DARPA's Ubiquitous High Performance Computing (UHPC) program, covers work to develop the GPU technologies required to build the new class of exascale supercomputers which will be 1,000-times more powerful than today's fastest supercomputers. The team includes Cray Inc., Oak Ridge National Laboratory, and six top U.S. universities.

"It's even more interesting that NVIDIA is now garnering this kind of respect from the HPC research community. As recently as five years ago, no one would have thought the GPU maker would be at the [cutting-edge of supercomputing](#)."

GPU Computing is the use of the massively parallel architecture of the graphics processing unit (GPU) as a computational engine using industry standard languages and APIs. CPUs are no longer increasing in clock speed, yet users are demanding more from their PCs today than ever before. In order to provide the much needed performance to deliver on these expectations, the only path available is to go multi-core or parallel - ie: add more cores and split demanding workloads across them. Due to the very nature of computer graphics, GPUs excel at doing many things at once and as such are ideally suited to this new computing environment. What GPUs bring is a massively parallel approach to the problem with 100's of cores.